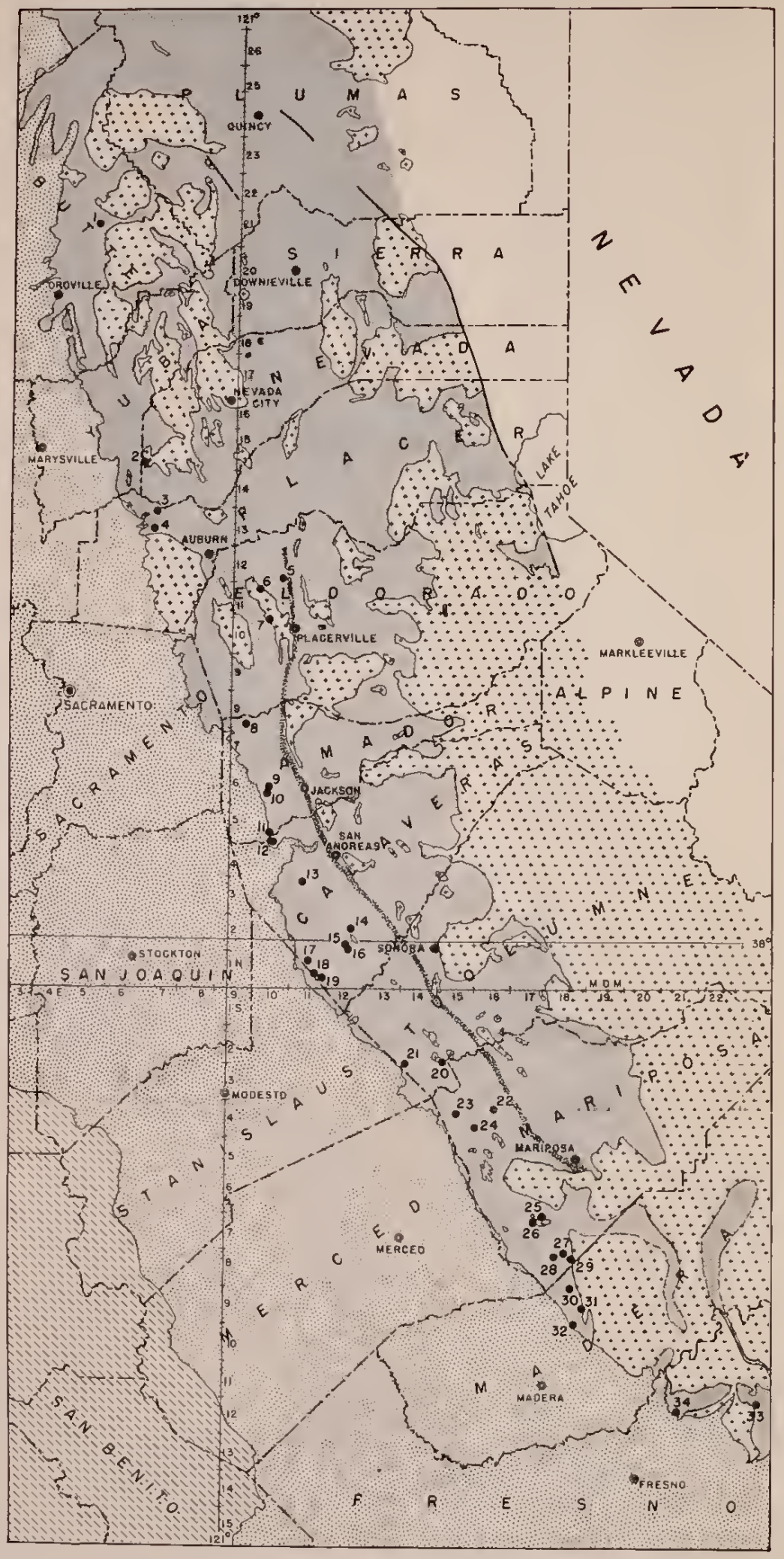
COPPER
IN CALIFORNIA

BULLETIN 144

1948

DIVISION OF MINES



EXPLANATION

- Undeformed Upper Cretaceous, Tertiary and Quaternary deposits of the Great Valley of California
- Mother Lode gold-quartz vein system
- Granodiorite and related granitoid intrusives
- Strongly deformed, metamorphosed Mesozoic and Paleozoic rocks
- Folded rocks of the Coast Ranges

Note: Areas of Tertiary and Quaternary deposits capping granodiorite and metamorphic rocks in the Sierran Province are not differentiated

SCALE

0 25 50 75 100 MILES

PRINCIPAL MINES AND PROSPECTS OF THE FOOTHILL COPPER-ZINC BELT

1 Big Bend
2 Spenceville
3 Dairy Farm
4 Valley View
5 Eldorado
6 Lilyamo
7 Funny Bug
8 Copper Hill
9 Allen
10 Newton
11 Greyhouse
12 Penn
13 Coledonio
14 Nossou or Poole
15 North Keystone
16 Keystone-Union
17 Quail Hill
18 Napoleon
19 Collier
20 Solombo
21 Oak Hill
22 La Victoria
23 Akoz
24 Blue Moon and American Eagle
25 Pocohontas
26 White Rock
27 Lone Tree
28 San Jose
29 Green Mountain
30 Buchanon
31 Jesse Belle
32 Doulton
33 Copper King
34 Fresno

MAP SHOWING RELATIONSHIP OF THE FOOTHILL COPPER-ZINC BELT OF CALIFORNIA TO THE BATHOLITH OF THE SIERRA NEVADA

DIVISION OF MINES
OLAF P JENKINS, CHIEF

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 144
PLATE 2

GEOLOGIC MAP OF THE BIG BEND MINE AREA

BUTTE COUNTY, CALIFORNIA

JUNE 1945

Scale

0 10 50 100 150 300 feet

Contour Interval 10 feet

EXPLANATION

- g — Greenstone and chlorite schist
- mf — Metatelsite
- s — Sericitized pyritized schist
- Gossan: ba, barite

- Attitude of schistosity
- Vertical schistosity
- Fault, showing dip
- Vertical fault
- Quartz vein, showing dip
- Contact, showing dip
- DDH 61° — Hoefling Brothers diamond-drill hole, showing direction and angle
- SP — Hoefling Brothers spontaneous polarization negative potential center (approx. location)
- Pit or caved shaft
- Underground working
- Adit
- Shaft
- Dump
- Trench
- Road

TOPOGRAPHY
Hoefling Brothers

GEOLOGY
F. H. Frederick, H. H. Bein; Hoefling Brothers
J. H. Eric; U S Geological Survey

DDH 1 53°
DDH 2 50°
DDH 3 57°
DDH 4 61°
DDH 5 66°
DDH 6 45°
DDH 7 45°
DDH 8 45°

3d level
2d level
1st level
4th level (5th level directly below)
BIG BEND SHAFT

N 12200
N 12100
N 12000
N 11900
N 11800
N 11700
N 11600
N 11500
N 11400
N 11300
N 11200
N 11100
N 11000
N 10900
N 10800
N 10700
N 10600

E 10500
E 10600
E 10700
E 10800
E 10900
E 11000
E 11100
E 11200
E 11300
E 11400

GEOLOGIC LEVEL MAPS

BIG BEND MINE

BUTTE COUNTY, CALIFORNIA

JUNE 1945

Scale

0 10 20 40 60 80 100 feet

EXPLANATION

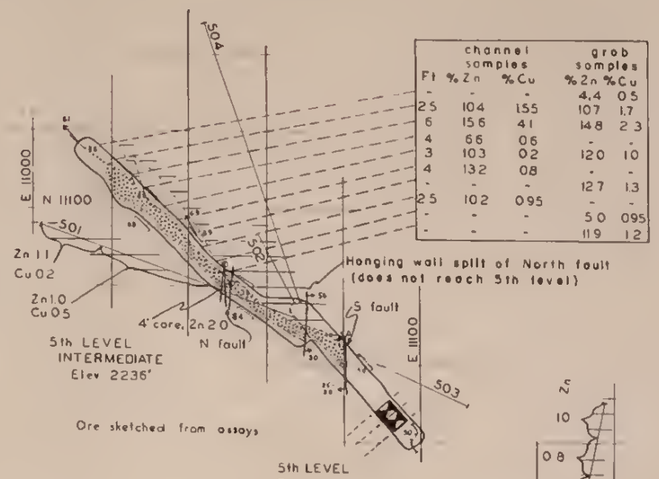
- Greenstone and chlorite schist includes mafic dikes and local areas of metafelsite
- Metafelsite
- Sericitized schist with disseminations, stringers, and veins of pyrite
- Feldspar porphyry
- Massive ore (pyrite, sphalerite, chalcopyrite); gossan on 1st level includes some mafic dikes

GEOLOGY NOT MAPPED WHERE NO PATTERN IS SHOWN

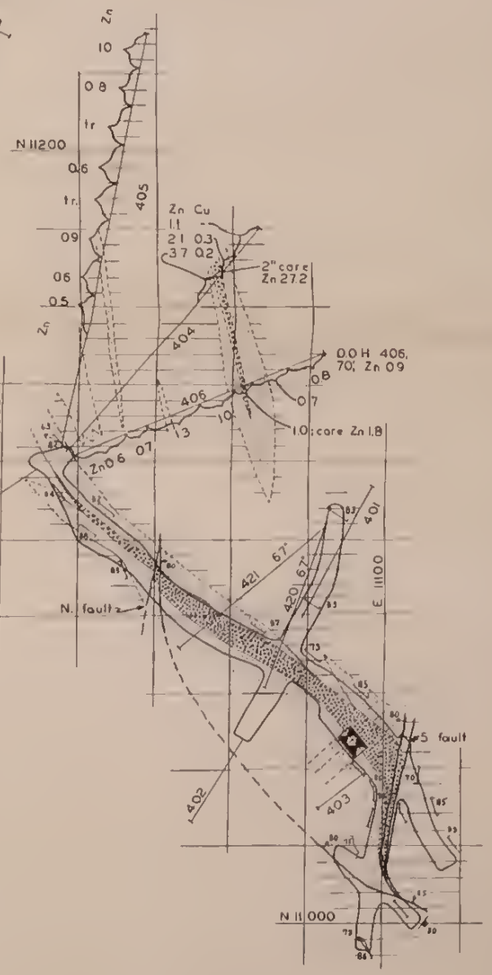
- Collar of shaft
- Shaft going through level
- 503, Hoefling Brothers diamond-drill holes; all holes are horizontal except 420 and 421, assays (%) of sludge except where noted
- Strike and dip of schistosity with plunge of linear element
- Vertical schistosity
- Strike and dip of major joint
- Fault, showing dip
- Fault, vertical
- Contact, showing dip, dashed where inferred

BASE AND ASSAYS: Hoefling Brothers

GEOLOGY: J H Eric, U S Geological Survey; H H Bein, Hoefling Brothers



	channel samples		grab samples	
Ft	%Zn	%Cu	%Zn	%Cu
-	-	-	4.4	0.5
2.5	10.4	1.55	10.7	1.7
6	15.6	4.1	14.8	2.3
4	6.6	0.6	-	-
3	10.3	0.2	12.0	1.0
4	13.2	0.8	-	-
-	-	-	12.7	1.3
2.5	10.2	0.95	-	-
-	-	-	5.0	0.95
-	-	-	11.9	1.2

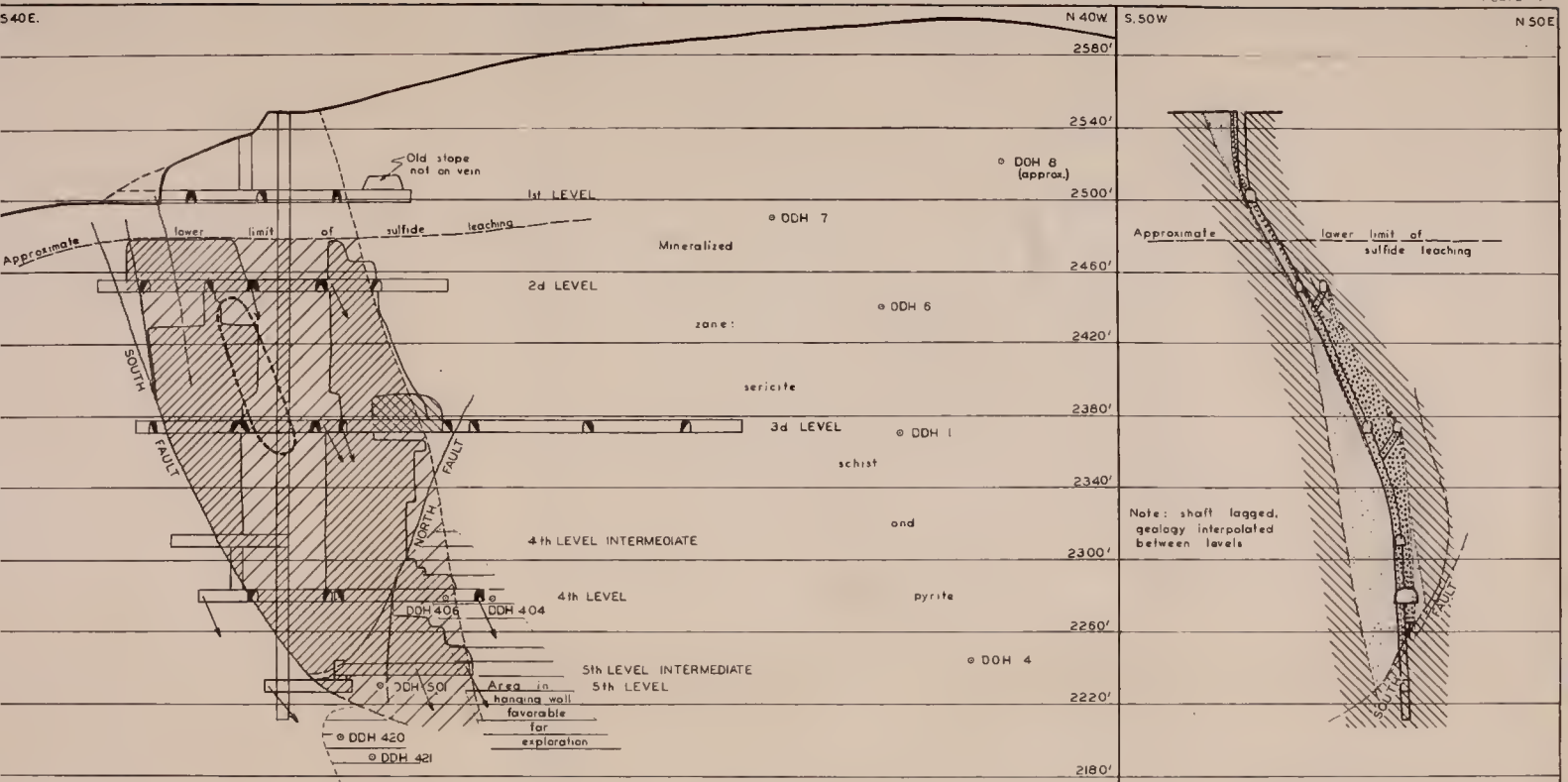


1st LEVEL
Elev 2499'

2d LEVEL
Elev 2449'

3d LEVEL
Elev 2371'

4th LEVEL
Elev 2277'



EXPLANATION

- Crosscut toward observer
- Crosscut away from observer
- Ore mined } June 1, 1945
- Ore in place } June 1, 1945
- Plunge of linear element
- 3d level "hanging-wall" stope
- Approximate north boundary of ore body
- Approximate limits within which ore is more than 20 feet wide
- Approximate upper south boundary of hypothetical ore body below South fault
- Approximate outline of hypothetical hanging-wall ore body
- Intersection of principal fault with mineralized zone
- DDH 4 Intersection of diamond drill hole with mineralized zone

EXPLANATION

- Massive ore; gossan
- Sericitized and pyritized schist
- Greenstone and chlorite schist
- Principal fault
- Contact
- Drift

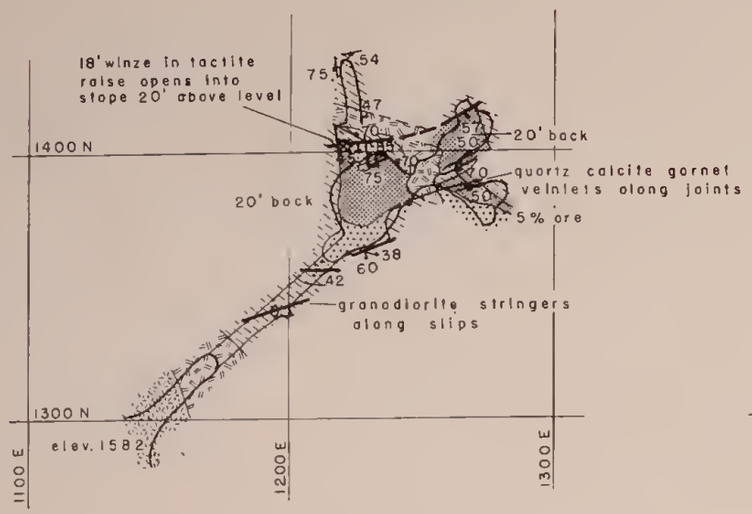
VERTICAL LONGITUDINAL PROJECTION AND SECTION ALONG SHAFT

BIG BEND MINE

BUTTE COUNTY, CALIFORNIA

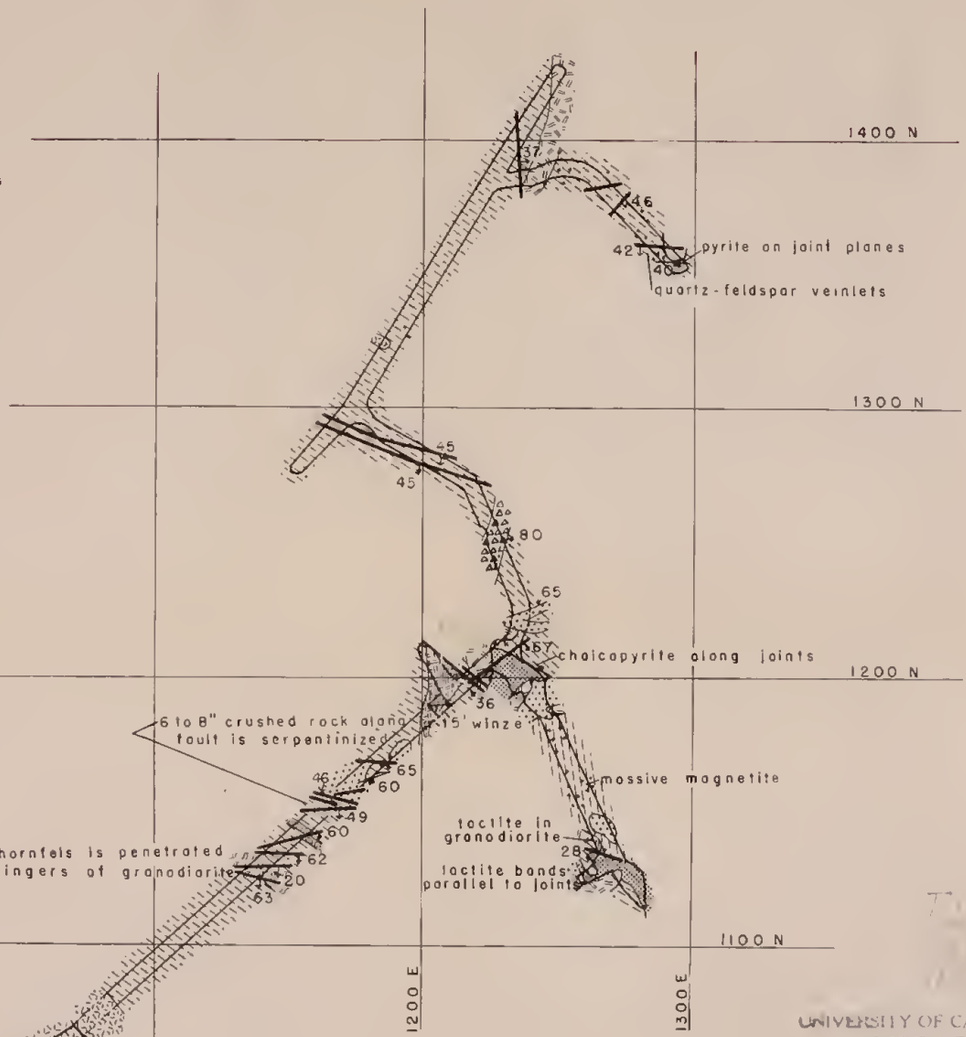
June 1945 · JH Eric

UPPER TUNNEL



Scale
0 10 20 40 80 120 feet

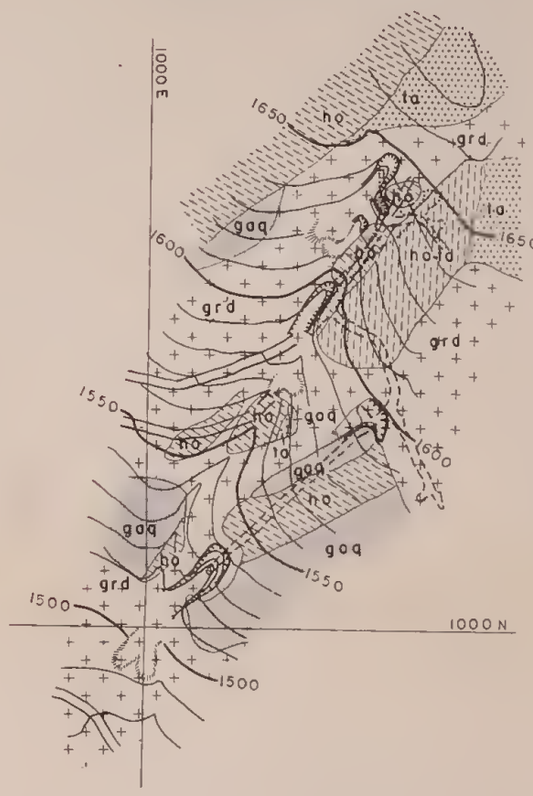
LOWER TUNNEL



SURFACE MAP

Scale
0 50 100 200 300 feet

Contour interval 10 feet



EXPLANATION FOR TUNNEL MAPS

- Ore: streaks of chalcopyrite and pyrite
- Quartz-calcite-magnetite rock: contains a small quantity of sulphides
- Tactite: coarse grained to dense rock composed of quartz, epidote, garnet, and magnetite
- Hornfels-tactite, undifferentiated: crosses indicate spots of tactite
- Hornfels: green to black siliceous rock locally with biotite metacrysts
- Hornblende granodiorite
- Contact phase of granodiorite: fine to medium grained green rock
- Hornblende diorite
- Syenite porphyry
- Contact showing dip
- Fault showing dip; and plunge of slickensides
- Vertical fault
- Strike and dip of joint

EXPLANATION FOR SURFACE MAP

- ta — Tactite: garnet, epidote, diopside? iodocrase? magnetite rock with patches of sulphides or gossan
- ho-ta — Hornfels-tactite, undifferentiated: spots of tactite and gossan in hornfels
- ho — Hornfels
- gaq — Garnet-quartzite
- grd — Granodiorite includes several phases distinguished underground
- Contact
- Open cut
- Dump
- Underground working, upper tunnel
- Underground working, lower tunnel

GEOLOGIC MAPS
OF THE
LILYAMA MINE
ELDORADO COUNTY

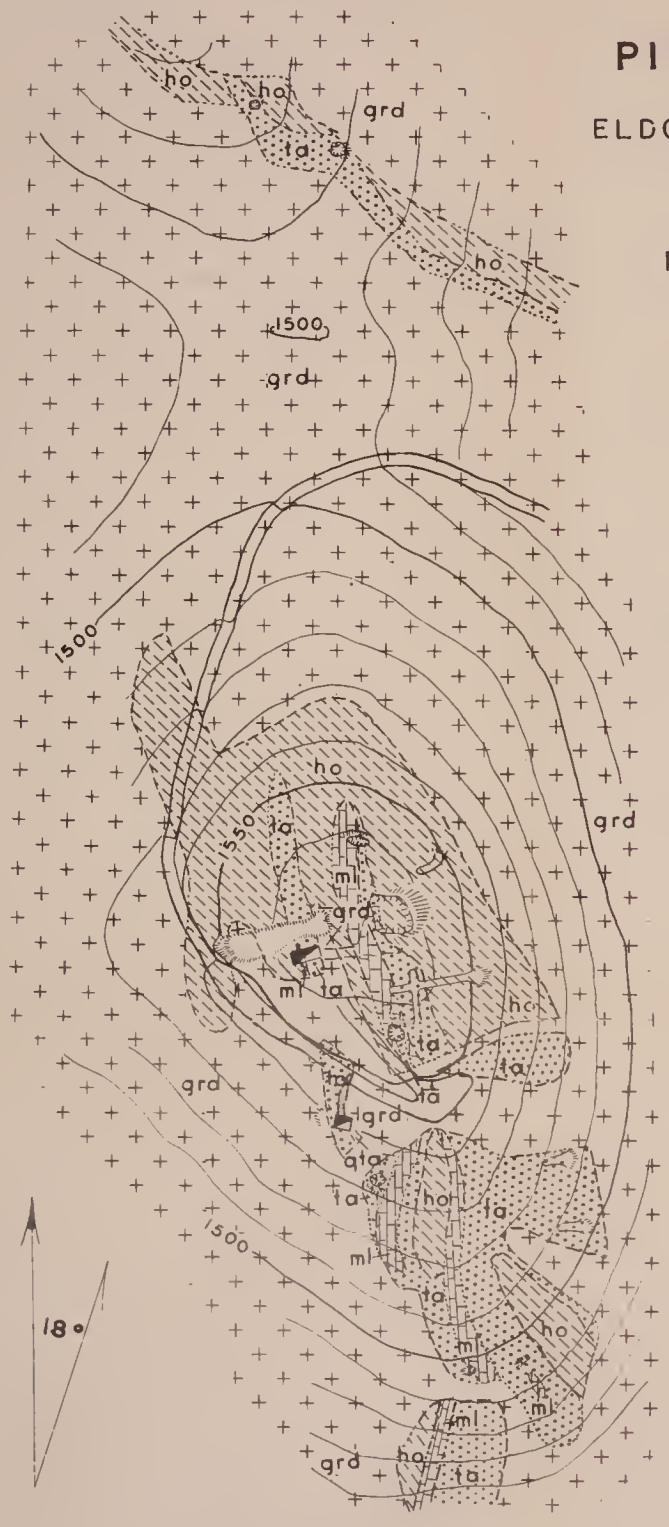
BY
D. G. WYANT, M. W. COX, AND G. R. HEYL

MARCH 1944

GEOLOGIC MAP OF THE
PIONEER MINE AREA
ELDORADO COUNTY, CALIFORNIA

GEOLOGY BY
M. W. COX AND D. G. WYANT

MARCH 1944



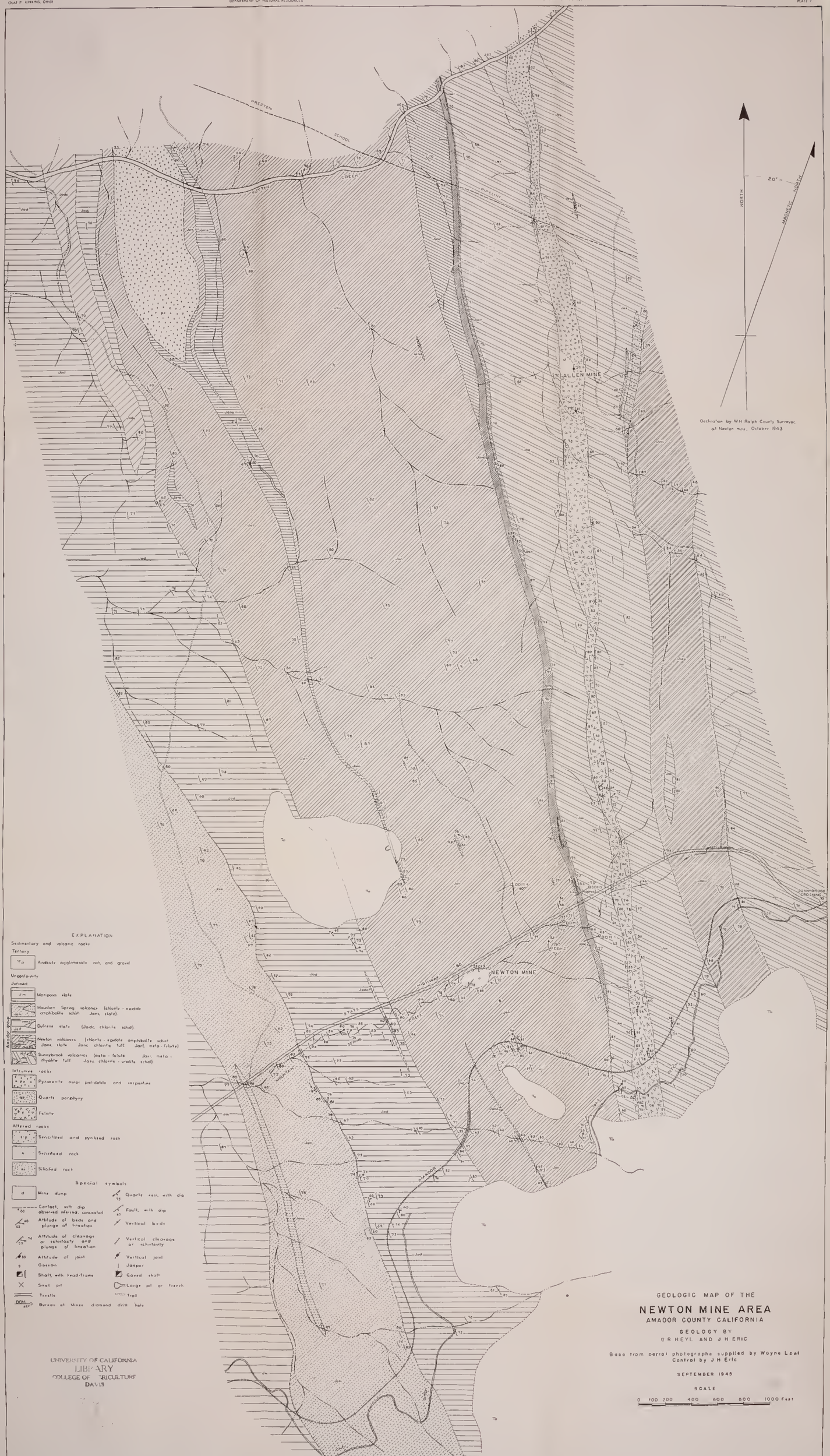
Scale

0 100 200 300 feet

Contour intervol 10 feet

EXPLANATION

- ta — Garnet-tacite
- qta — Quartz-tacite
- ho — Hornfels
- ml — Marble
- grd — Granodiorite
- Contact
- Pit
- Open hole
- Shaft



EXPLANATION

- Copper ore, massive pyrite and chalcopyrite with some chalcocite in upper levels
- Strongly pyritized schist, generally with some sericite and, or, quartz; includes bands of massive pyrite
- Specularite-bearing red jasper, and gray cryptocrystalline quartz; locally with some carbonate
- Strongly silicified and, or, epidotized schist, locally containing aggregate carbonate
- Green schist, the main constituents being chlorite, amphibole, epidote, and, or, quartz

- Contact showing dip, dashed where inferred
- Fault showing dip and plunge of slickensides, dashed where inferred
- Attitude of schistosity and plunge of lineation
- Vertical schistosity
- Attitude of cross parting
- Vertical cross parting
- Plunge of low angle lineation or minute crenulation in schistosity
- Horizontal lineation
- Attitude of joint
- Geologic cross section

- Walls of mine workings
- Observed stope boundary
- Shaft collar, elevation indicated
- Shaft station elevation of floor indicated
- Caved shaft
- Head of vertical raise or winze
- Foot of vertical raise or winze
- Head of inclined raise or winze
- Foot of inclined raise or winze
- Vertical raise or winze extending above and below level

GEOLOGIC LEVEL MAPS
NEWTON MINE
AMADOR COUNTY, CALIFORNIA

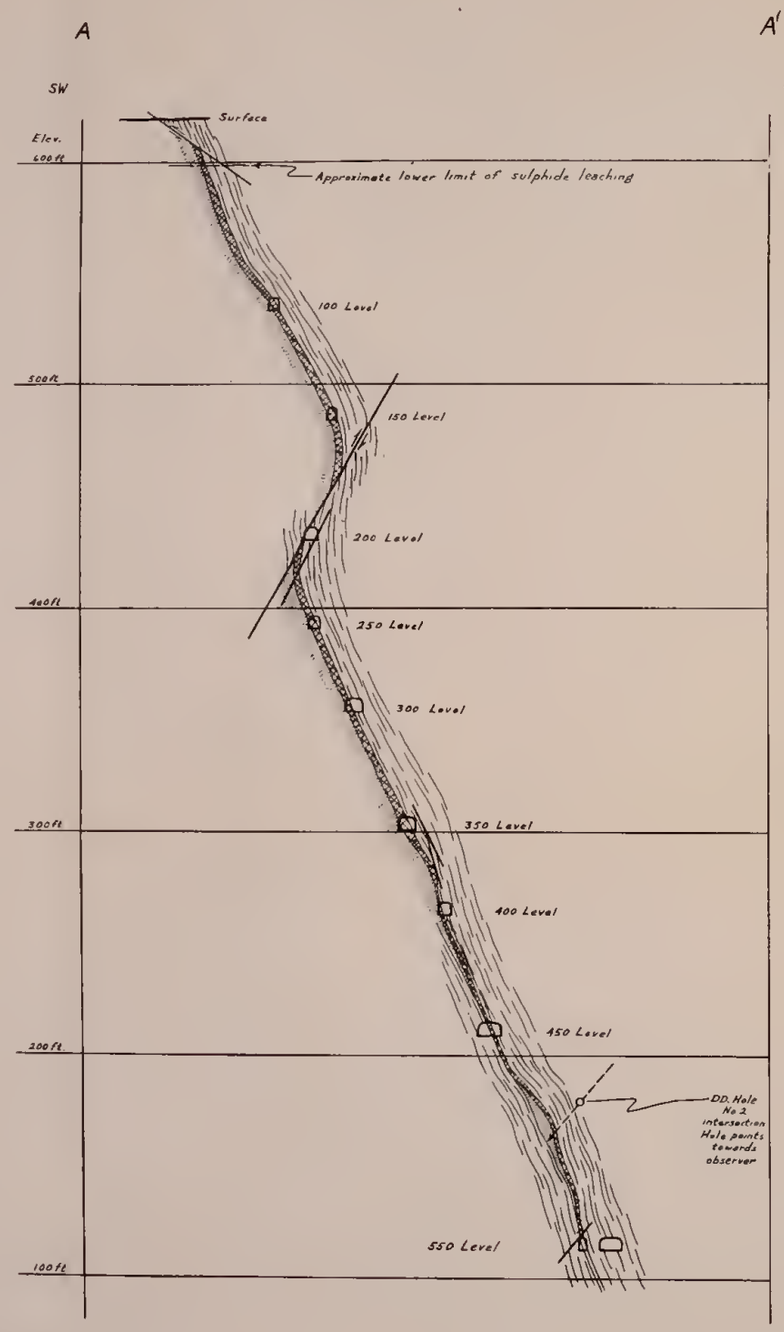
GEOLOGY BY
G. R. HEYL, A. M. W. COX 100, 150, 200, 250, 300, 350, 400 LEVELS
J. H. ERIC 450 LEVEL, G. R. HEYL 550 LEVEL

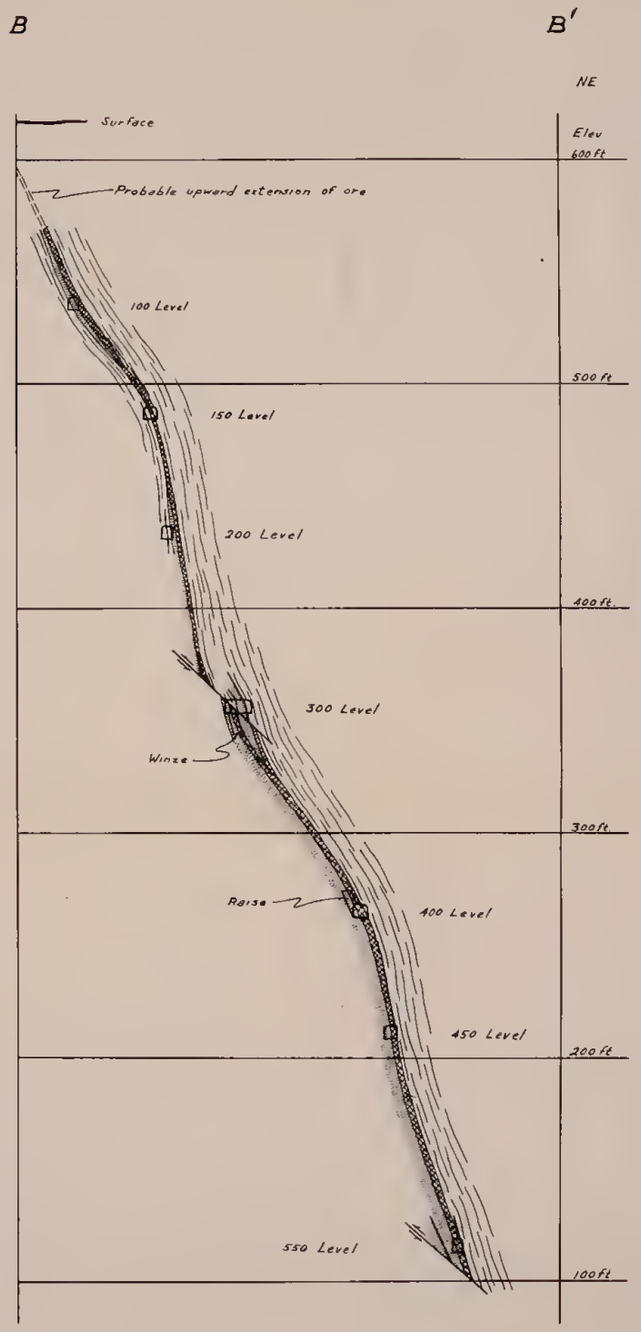
Base map by Winston Copps Co., Pacific Mining Co. with additions by U. S. Geological Survey

SEPTEMBER 1945

SCALE
0 10 20 40 60 80 100 Feet

Elevation datum approximate sea level





GEOLOGIC SECTIONS
NEWTON MINE
AMADOR COUNTY, CALIFORNIA

BY G R HEYL

1945

Scale
0 20 40 80 120 160 feet

EXPLANATION

- Copper ore; massive pyrite and chalcopyrite, with some chalcocite in upper levels.
- Strongly pyritized schist, generally with some sericite and, or quartz; includes bonds of massive pyrite
- Green schist, the main constituents being chlorite, amphibole, epidote, and, or quartz.
- Geologic contact
- Fault, arrows indicate relative movement
- Mine workings
- Stope boundary

Elevation datum approximate sea level

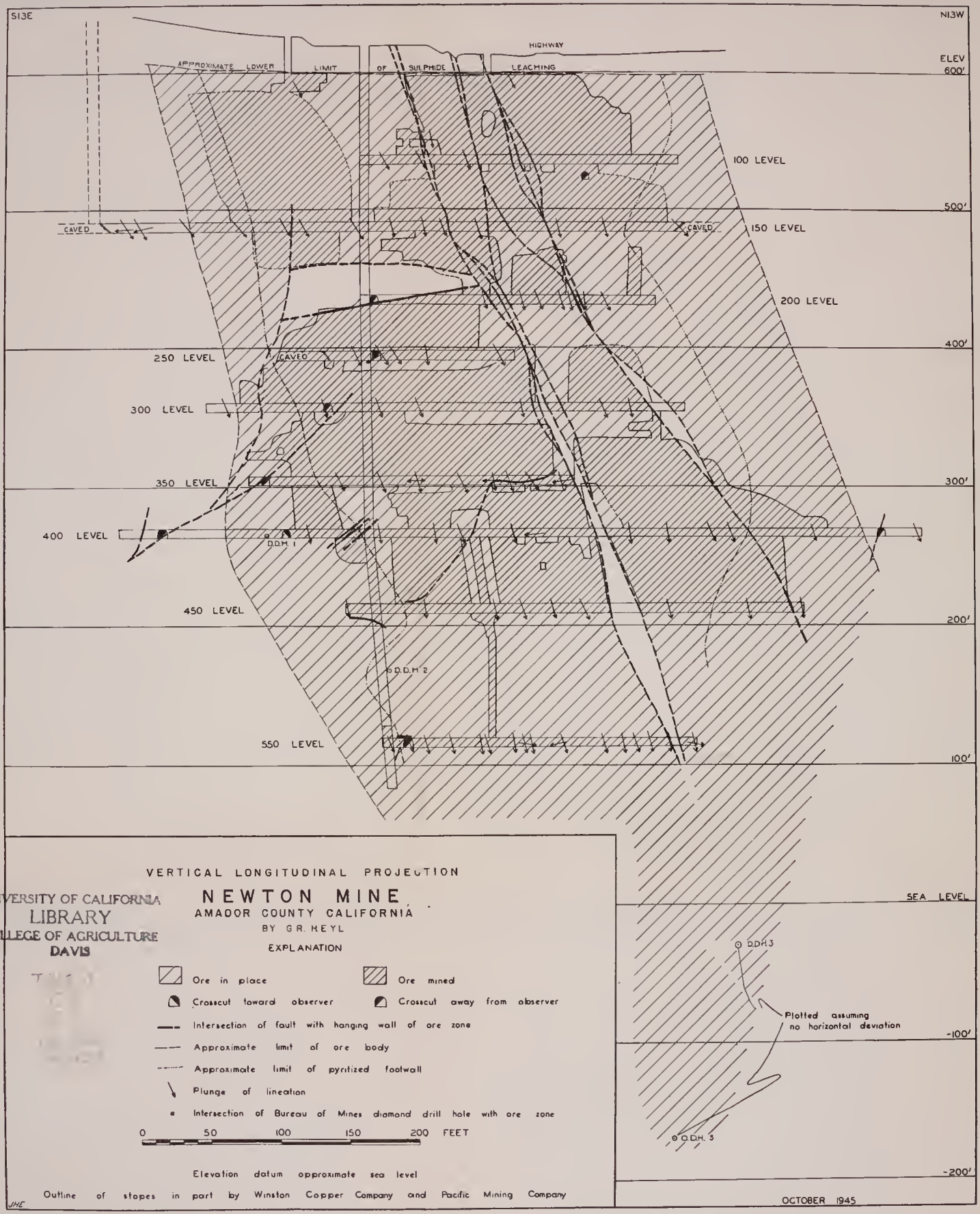
G.R.H

DIVISION OF MINES
OLAF P. JENKINS, CHIEF

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 144
PLATE 10



VERTICAL LONGITUDINAL PROJECTION

NEWTON MINE

AMADOR COUNTY CALIFORNIA

BY G.R. HEYL

EXPLANATION

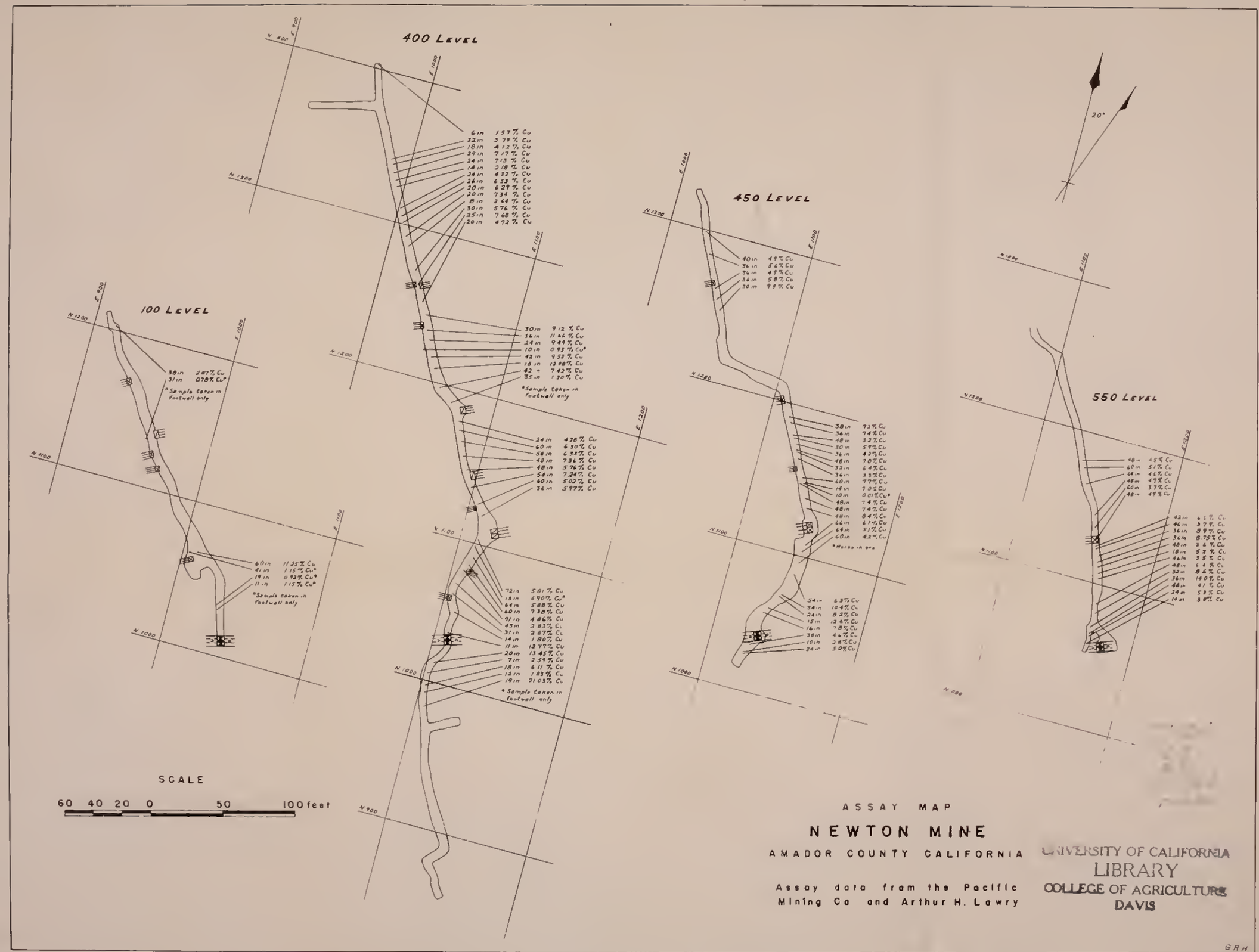
- Ore in place
- Ore mined
- Crosscut toward observer
- Crosscut away from observer
- Intersection of fault with hanging wall of ore zone
- Approximate limit of ore body
- Approximate limit of pyritized footwall
- Plunge of lineation
- Intersection of Bureau of Mines diamond drill hole with ore zone

0 50 100 150 200 FEET

Elevation datum approximate sea level

Outline of stopes in part by Winston Copper Company and Pacific Mining Company

OCTOBER 1945



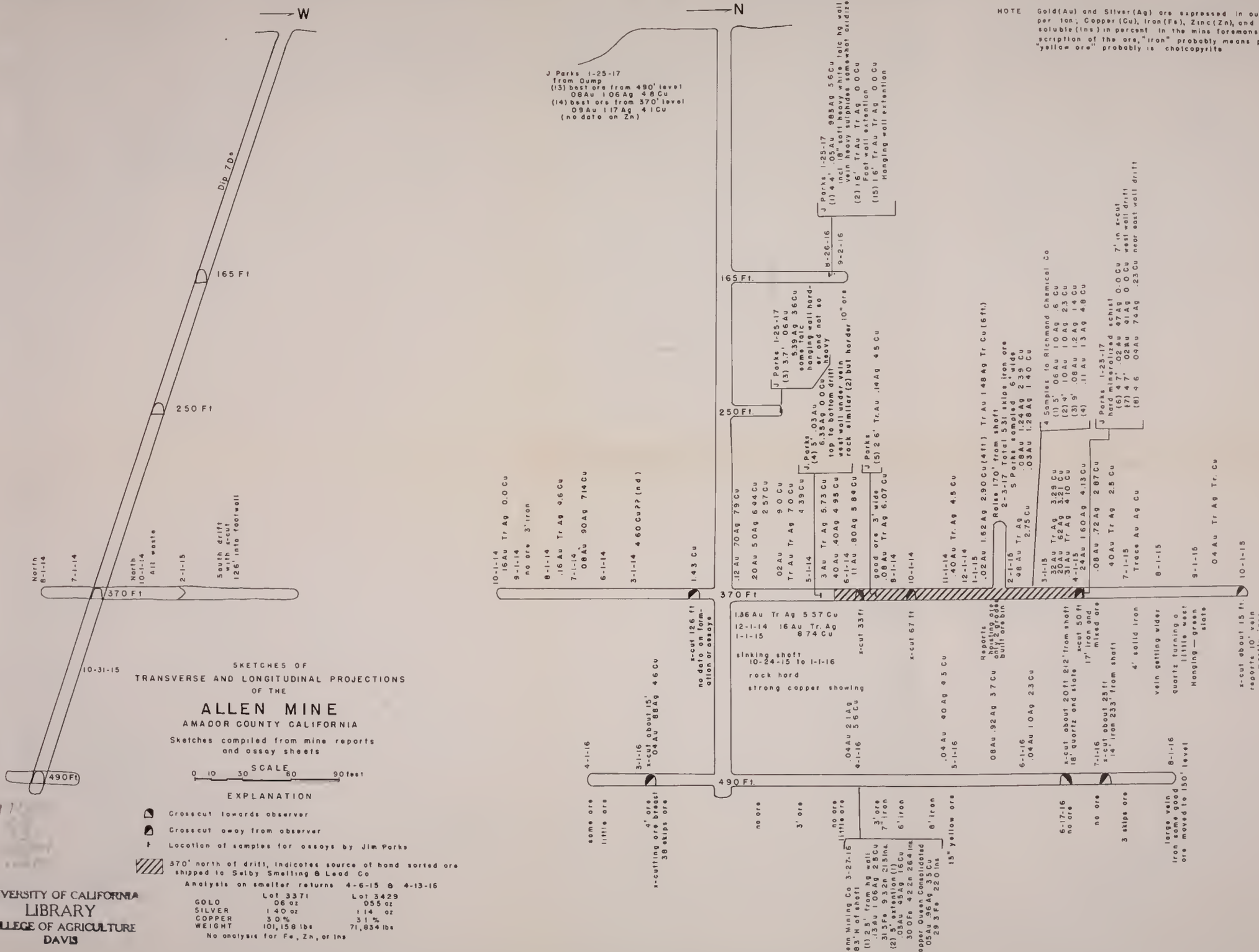
ASSAY MAP

NEWTON MINE

AMADOR COUNTY CALIFORNIA

Assay data from the Pacific Mining Co and Arthur H. Lawry

GRH



HOTE Gold(Au) and Silver(Ag) are expressed in ounces per ton; Copper(Cu), Iron(Fe), Zinc(Zn), and Insoluble(Ins) in percent In the mins foremans description of the ore, "iron" probably means pyrite; "yellow ore" probably is chalcopyrite

SKETCHES OF
TRANSVERSE AND LONGITUDINAL PROJECTIONS
OF THE

ALLEN MINE

AMADOR COUNTY CALIFORNIA

Sketches compiled from mine reports and assay sheets

SCALE
0 10 30 60 90 feet

EXPLANATION

- Crosscut towards observer
- Crosscut away from observer
- Location of samples for assays by Jim Parks
- 370' north of drift, indicates source of hand sorted ore shipped to Selby Smelting & Lead Co

Analysis on smelter returns 4-6-15 & 4-13-16

	Lot 3371	Lot 3429
GOLD	06 oz	055 oz
SILVER	1.40 oz	1.14 oz
COPPER	3.0 %	3.1 %
WEIGHT	101,158 lbs	71,834 lbs

No analysis for Fe, Zn, or Ins

DIVISION OF MINES
OLAF P. JENKINS, CHIEF

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 144
PLATE 14

MAP OF LEVELS SHAFTS AND RAISES PENN MINE

CALAVERAS COUNTY, CALIFORNIA

Compiled from maps of Penn Mining Co by
J.H. ERIC
JANUARY 1945

SCALE
0 100 300 500 Feet

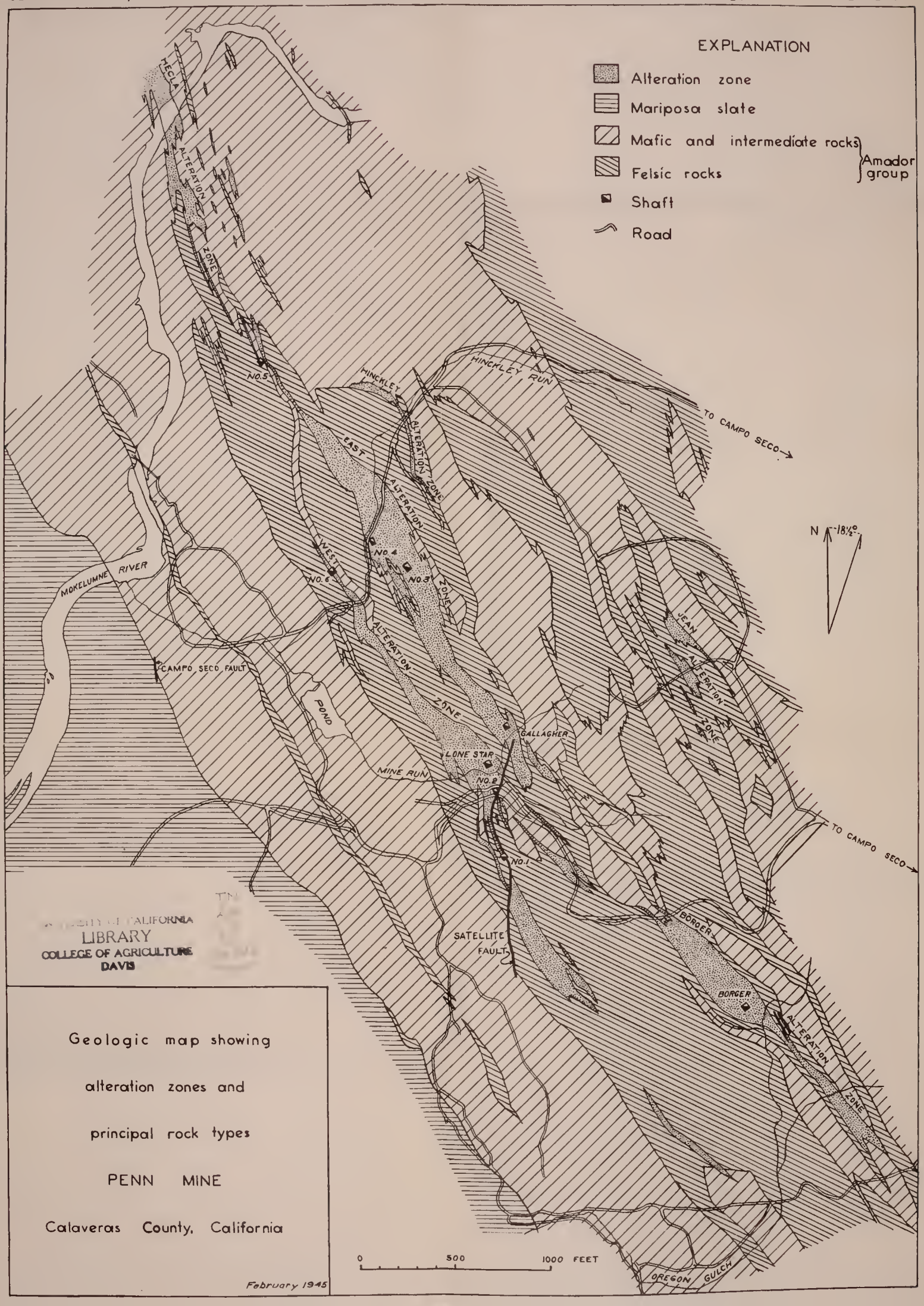
Elevation datum Sea level

EXPLANATION

Inclined shaft or raise

Collar of shaft

A——A' Vertical section or projection



Geologic map showing

alteration zones and

principal rock types

PENN MINE

Calaveras County, California

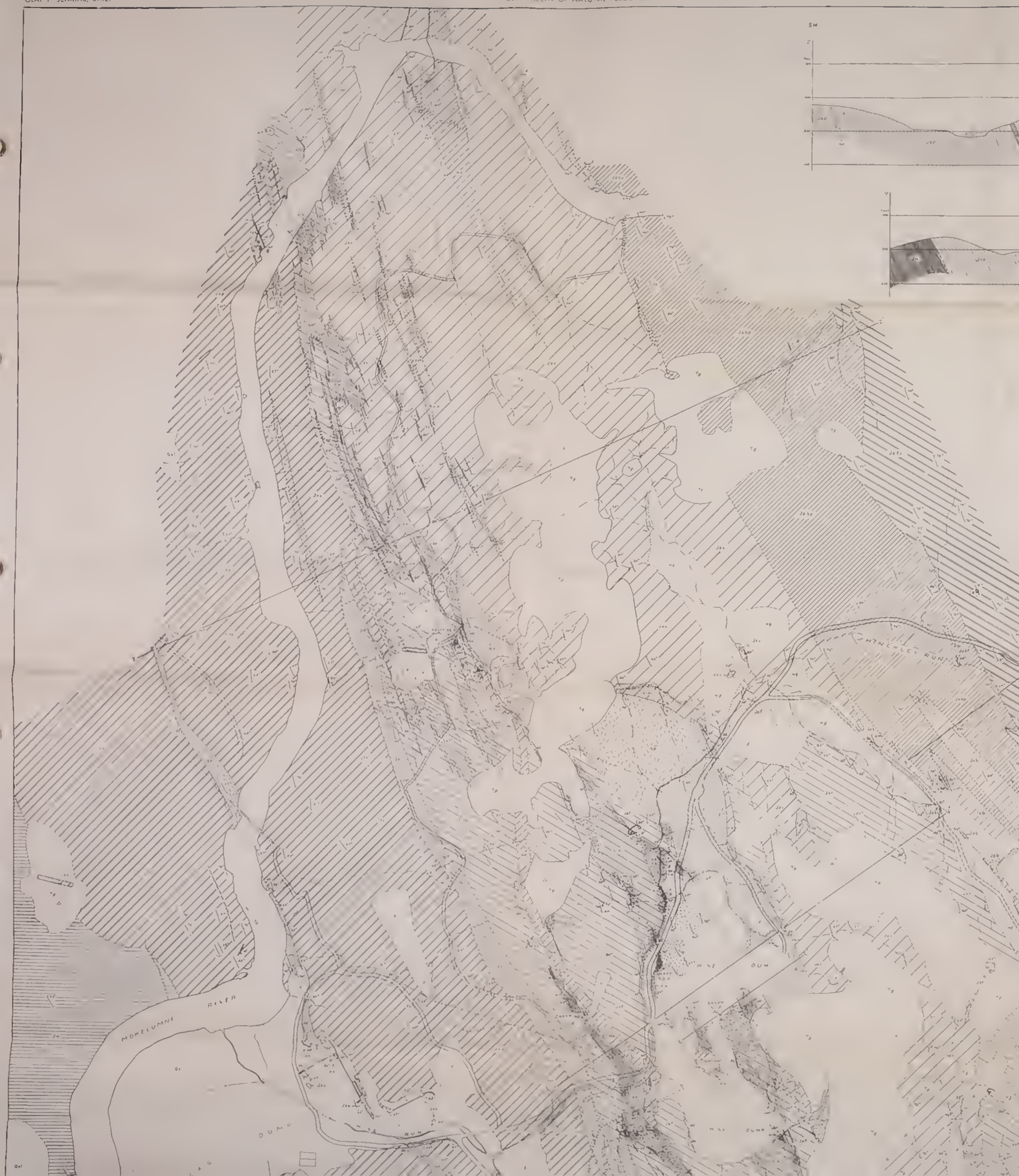
February 1945

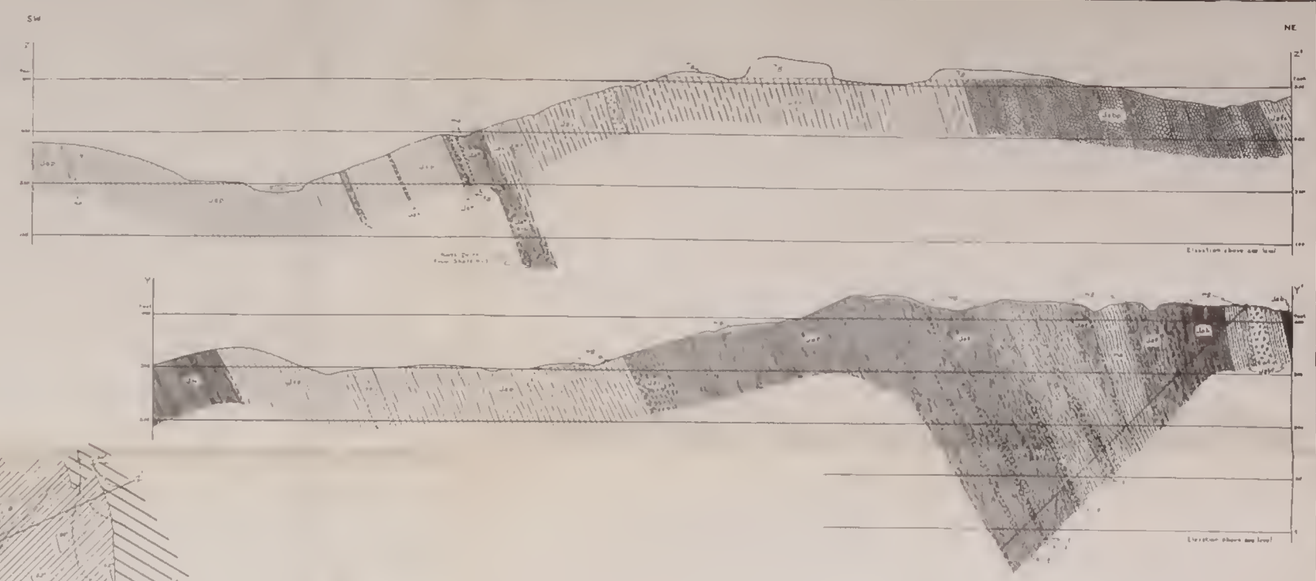
DIVISION OF MINES
OLAF P. JENKINS, CHIEF

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

UNITED STATES DEPARTMENT OF THE
INTERIOR GEOLOGICAL SURVEY

BULLETIN 144
PLATE 15



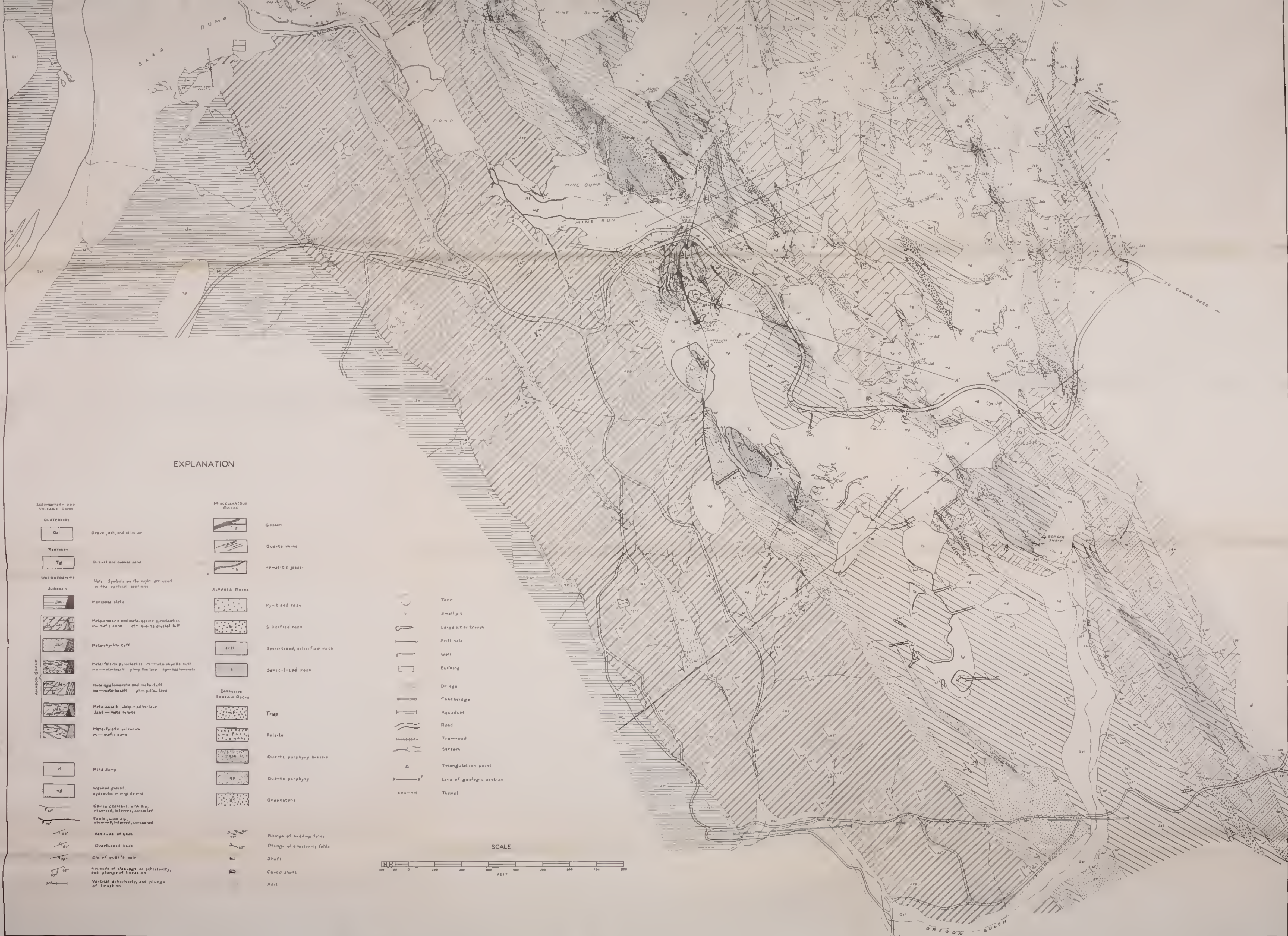


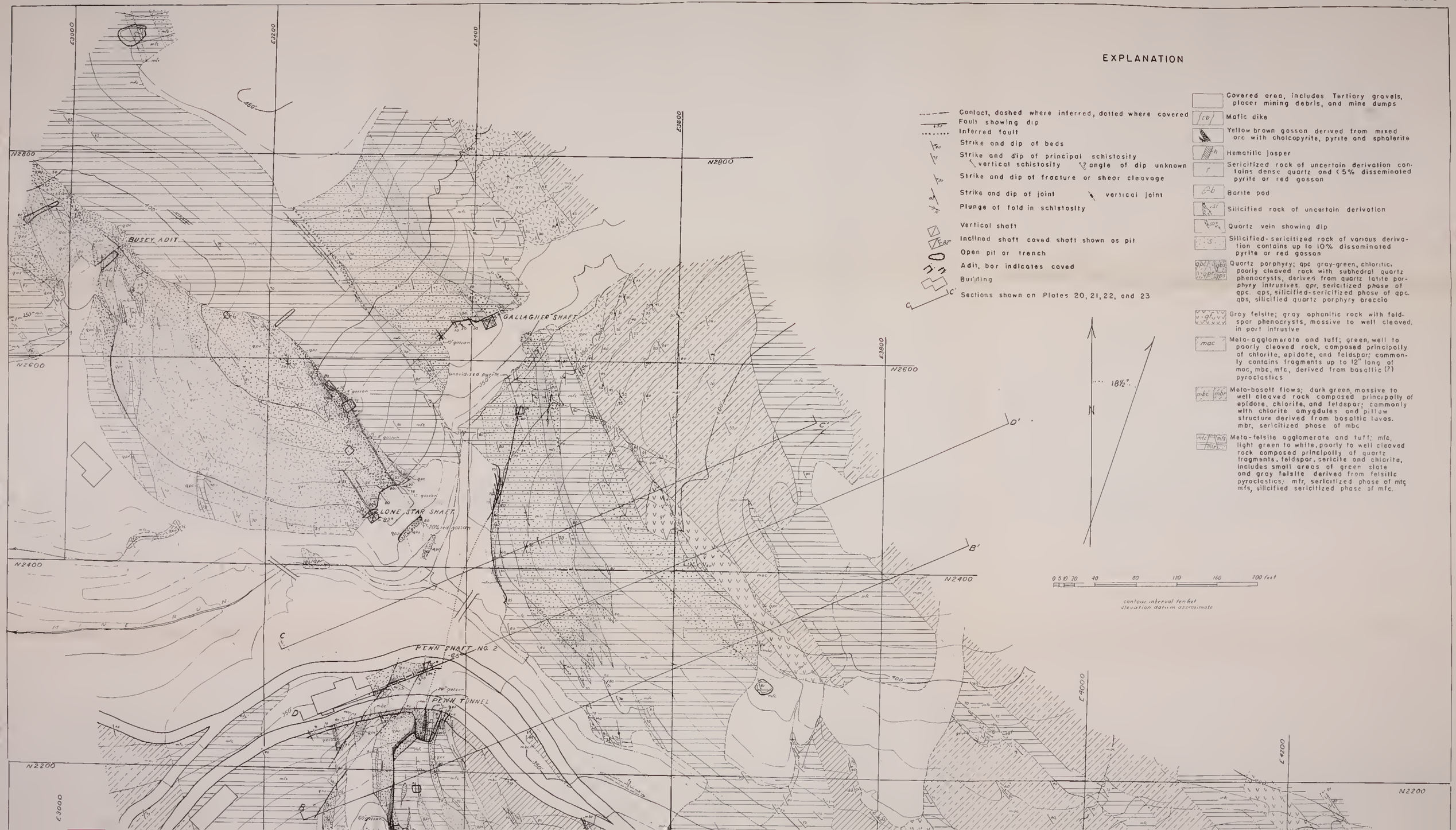
GEOLOGIC MAP AND SECTIONS
OF THE
PENN MINE AREA
CALAVERAS AND AMADOR COUNTIES, CALIFORNIA

GEOLOGY BY
G.R. HEYL, M.W. COX, J.H. ERIC
J.B. HADLEY AND G.L. QUICK

TRIANGULATION BY
M.H. STAATZ, M.W. COX
O.G. WYANT AND G.R. HEYL

1944

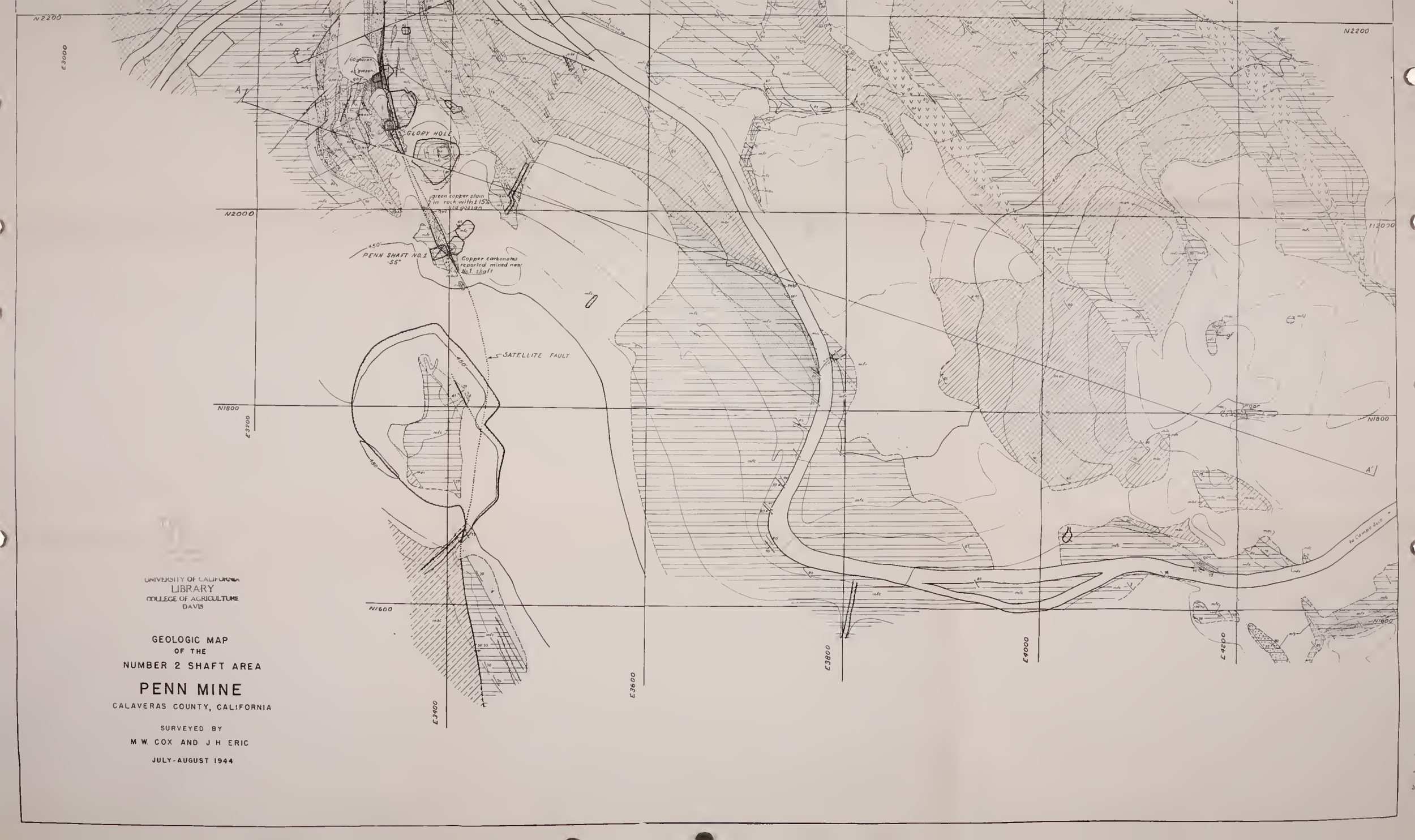

SLAG DUMP
POND
MINE DUMP
MINE RUN
SHAFT NO. 1
BOOSER SHAFT
TO CAMPO SECO
OREGON GULCH
EXPLANATION
Sedimentary and Volcanic Rocks
Quaternary
Gravel, ash, and alluvium
Tertiary
Gravel and coarse sand
Unconformity
Note: Symbols on the right are used in the vertical sections
Jurassic
Mariposa slate
Meta-andesite and meta-dacite pyroclastics
m—mafic zone
qt—quartz crystal tuff
Meta-rhyolite tuff
Meta-felsite pyroclastics
rt—meta-rhyolite tuff
mb—meta-basalt
pl—pillow lava
ag—agglomerate
Meta-agglomerate and meta-tuff
mb—meta-basalt
pl—pillow lava
Meta-basalt
Jabp—pillow lava
Jabf—meta felsite
Meta-felsite volcanics
m—mafic zone
Amador Group
Mine dump
Washed gravel, hydraulic mining debris
Geologic contact, with dip, observed, inferred, concealed
Fault, with dip, observed, inferred, concealed
Attitude of beds
Overturned beds
Dip of quartz vein
Attitude of cleavage or schistosity, and plunge of lineation
Vertical schistosity, and plunge of lineation
Miscellaneous Rocks
Gossan
Quartz veins
Hematitic jasper
Altered Rocks
Pyritized rock
Silicified rock
Sericitized, silicified rock
Sericitized rock
Intrusive Igneous Rocks
Trap
Felsite
Quartz porphyry breccia
Quartz porphyry
Greenstone
Plunge of bedding folds
Plunge of schistosity folds
Shaft
Caved shaft
Adit
Tank
Small pit
Large pit or trench
Drill hole
Well
Building
Bridge
Footbridge
Aqueduct
Road
Tramroad
Stream
Triangulation point
Line of geologic section
Tunnel
SCALE
FEET



EXPLANATION

- Contact, dashed where inferred, dotted where covered
- Fault showing dip
- Inferred fault
- Strike and dip of beds
- Strike and dip of principal schistosity
- vertical schistosity
- angle of dip unknown
- Strike and dip of fracture or shear cleavage
- Strike and dip of joint
- vertical joint
- Plunge of fold in schistosity
- Vertical shaft
- Inclined shaft coved shaft shown as pit
- Open pit or trench
- Adit, bar indicates coved
- Building
- Sections shown on Plates 20, 21, 22, and 23

- Covered area, includes Tertiary gravels, placer mining debris, and mine dumps
- Mafic dike
- Yellow brown gossan derived from mixed ore with chalcopyrite, pyrite and sphalerite
- Hematitic jasper
- Sericitized rock of uncertain derivation contains dense quartz and < 5% disseminated pyrite or red gossan
- Barite pod
- Silicified rock of uncertain derivation
- Quartz vein showing dip
- Silicified-sericitized rock of various derivation contains up to 10% disseminated pyrite or red gossan
- Quartz porphyry; qpc gray-green, chloritic, poorly cleaved rock with subhedral quartz phenocrysts, derived from quartz latite porphyry intrusives. qpr, sericitized phase of qpc. qps, silicified-sericitized phase of qpc. qbs, silicified quartz porphyry breccia
- Gray felsite; gray aphanitic rock with feldspar phenocrysts, massive to well cleaved, in part intrusive
- mac — Meta-agglomerate and tuff; green, well to poorly cleaved rock, composed principally of chlorite, epidote, and feldspar; commonly contains fragments up to 12" long of mac, mbc, mfc, derived from basaltic (?) pyroclastics
- mbc / mbr — Meta-basalt flows; dark green, massive to well cleaved rock composed principally of epidote, chlorite, and feldspar; commonly with chlorite amygdules and pillow structure derived from basaltic lavas. mbr, sericitized phase of mbc
- mfc / mfs / mfr — Meta-felsite agglomerate and tuff; mfc, light green to white, poorly to well cleaved rock composed principally of quartz fragments, feldspar, sericite and chlorite, includes small areas of green slate and gray felsite derived from felsitic pyroclastics; mfr, sericitized phase of mfc; mfs, silicified sericitized phase of mfc.



GEOLOGIC MAP
OF THE
NUMBER 2 SHAFT AREA

PENN MINE

CALAVERAS COUNTY, CALIFORNIA

SURVEYED BY
M W. COX AND J H ERIC

JULY-AUGUST 1944

EXPLANATION

- Massive ore: chalcopyrite, bornite and tetrahedrite with pyrite, quartz and sericite
- Stringers of sulphides, dominantly pyrite
- Disseminated sulphides, dominant pyrite
- Quartz vein, showing dip
- Silicified and sericitized schist
- Sericitized schist
- Silicified and recrystallized quartz porphyry
- Sericitized quartz porphyry
- Unaltered quartz porphyry
- Greenstone and green schist, undifferentiated
- Silicified greenstone
- Geologic contact, showing dip
- Fault or fault zone showing dip & location, fault vertical or fault
- Joint showing dip
- Strike and dip of cleavage, showing plunge of linear element
- Vertical cleavage
- Plunge of fold in cleavage
- Outline of inaccessible workings
- Head of shaft
- Shaft going above and below level
- Sections shown on Plate 2

ORE BODY 7b

ORE BODY 7

ORE BODY 7a

NO 4 SHAFT

NO 3 SHAFT

300 LEVEL

400 LEVEL

500 LEVEL

600 LEVEL

700 LEVEL

900 LEVEL

1000 LEVEL

1100 LEVEL (no stopes) (geologic notes taken from company maps)

1200 LEVEL (no stopes) (geologic notes taken from company maps)

GEOLOGIC LEVEL MAPS
OF
NUMBER 3 SHAFT WORKINGS

PENN MINE

CALAVERAS COUNTY, CALIFORNIA

GEOLOGY BY
G.R. MEYL, M.W. COX, J.B. HADLEY
M.H. STAATZ, O.G. WYANT, AND J.H. ERIC

1943–1944

SCALE
0 40 100 200 Feet

Elevation datum Sea level

Outline of workings taken from company maps

GEOLOGIC LEVEL MAPS
OF
NUMBER 2 SHAFT WORKINGS

PENN MINE

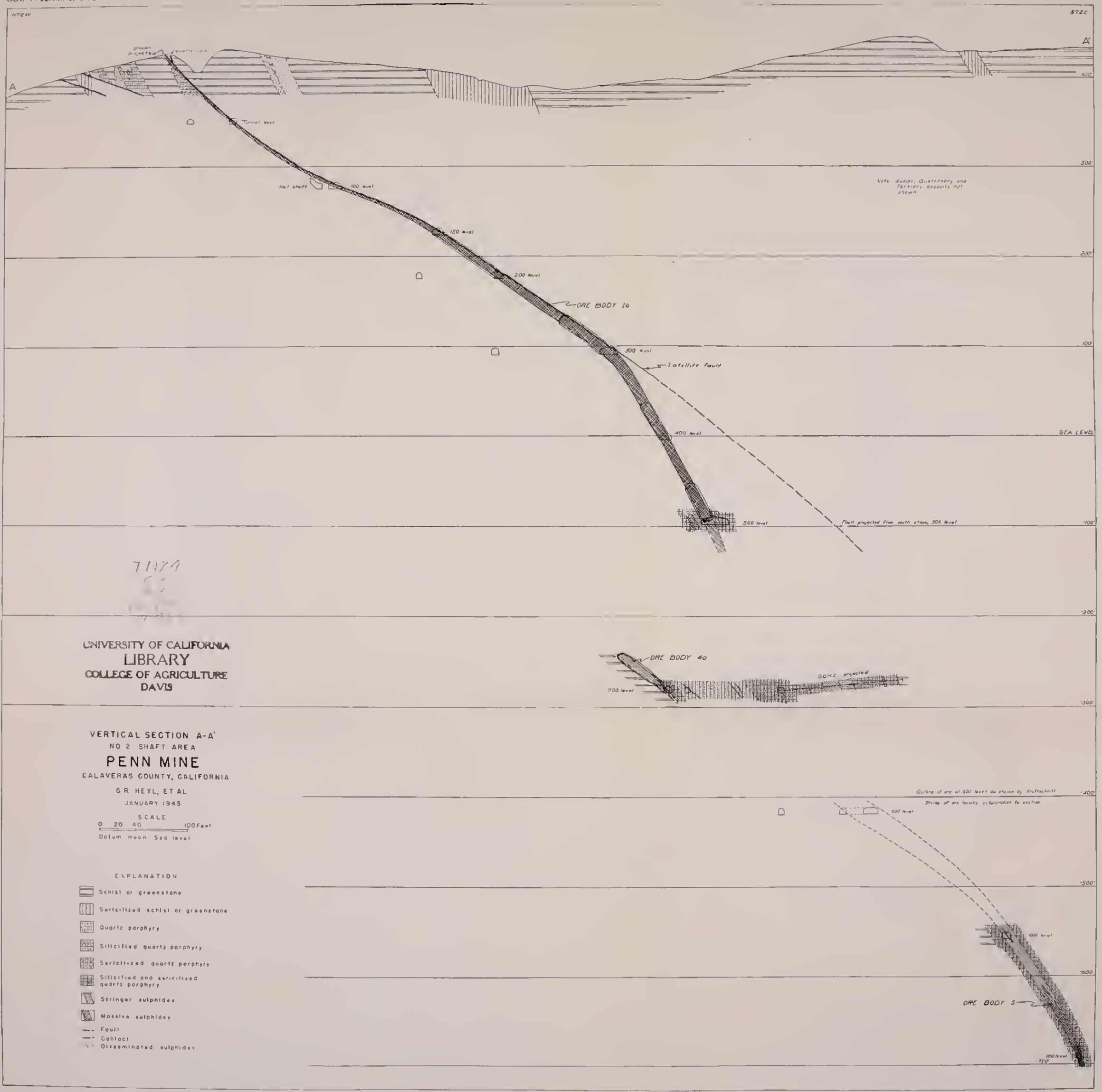
CALAVERAS COUNTY, CALIFORNIA

GEOLOGY BY
G.R. HEIL, W.W. COX, J.B. HADLEY,
W.H. STARTZ, D.G. WYANT AND J.M. ERIC

1943 1944 1945

SCALE
0 20 40 100 200 Feet

Elevation datum Sea level
Outline of workings taken from company maps



VERTICAL SECTION A-A'
NO 2 SHAFT AREA

PENN MINE

CALAVERAS COUNTY, CALIFORNIA

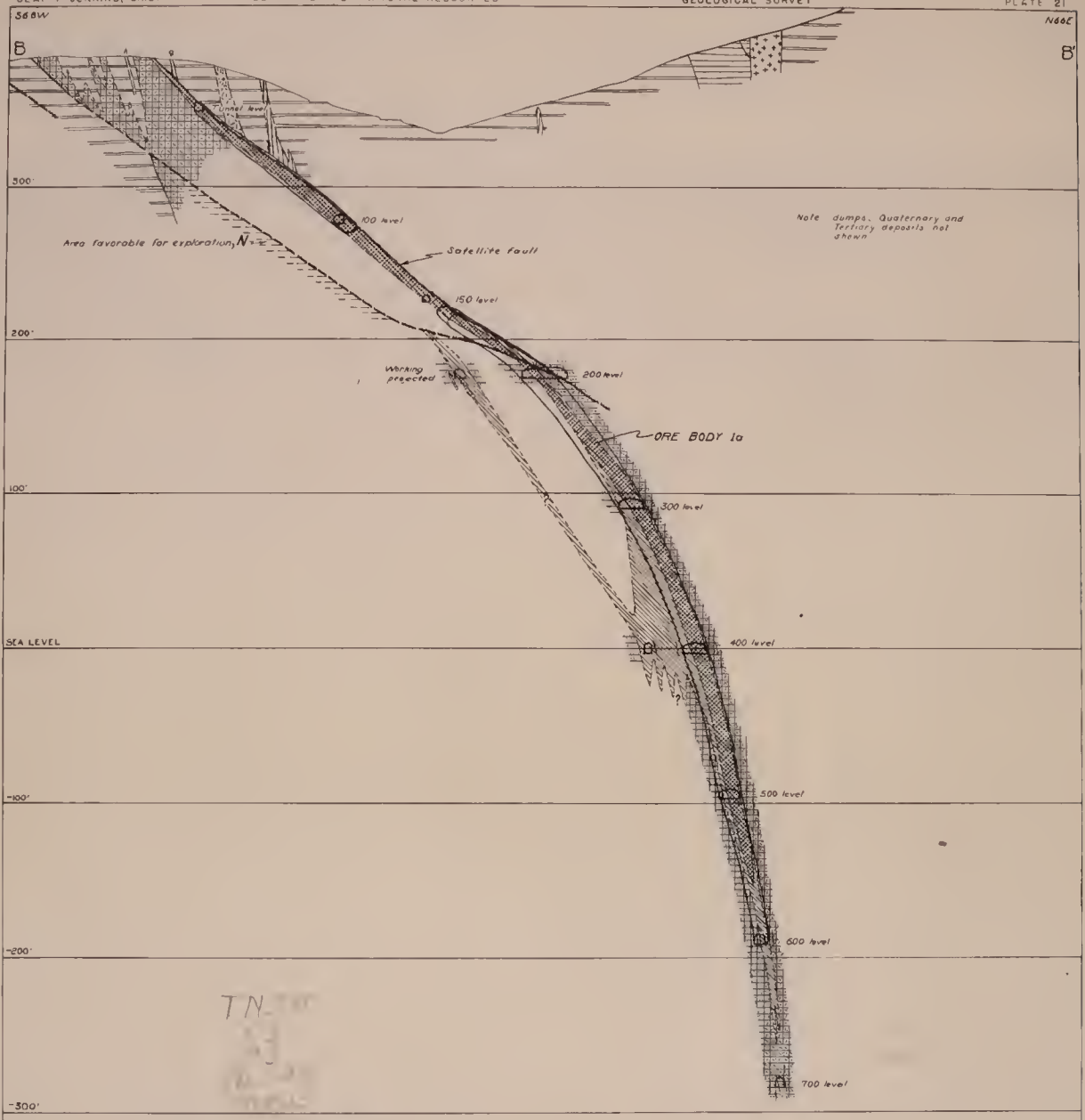
G R HEYL, ET AL

JANUARY 1945

SCALE
0 20 40 100 Feet
Datum mean Sea level

EXPLANATION

- Schist or greenstone
- Sericitized schist or greenstone
- Quartz porphyry
- Silicified quartz porphyry
- Sericitized quartz porphyry
- Silicified and sericitized quartz porphyry
- Stringer sulphides
- Massive sulphides
- Fault
- Contact
- Disseminated sulphides



VERTICAL SECTION B-B'
NO 2 SHAFT AREA

PENN MINE

CALAVERAS COUNTY, CALIFORNIA

GEOLOGY BY
G R HEYL, ET AL

SCALE
0 20 40 100 200 Feet
Datum mean Sea level

600 level

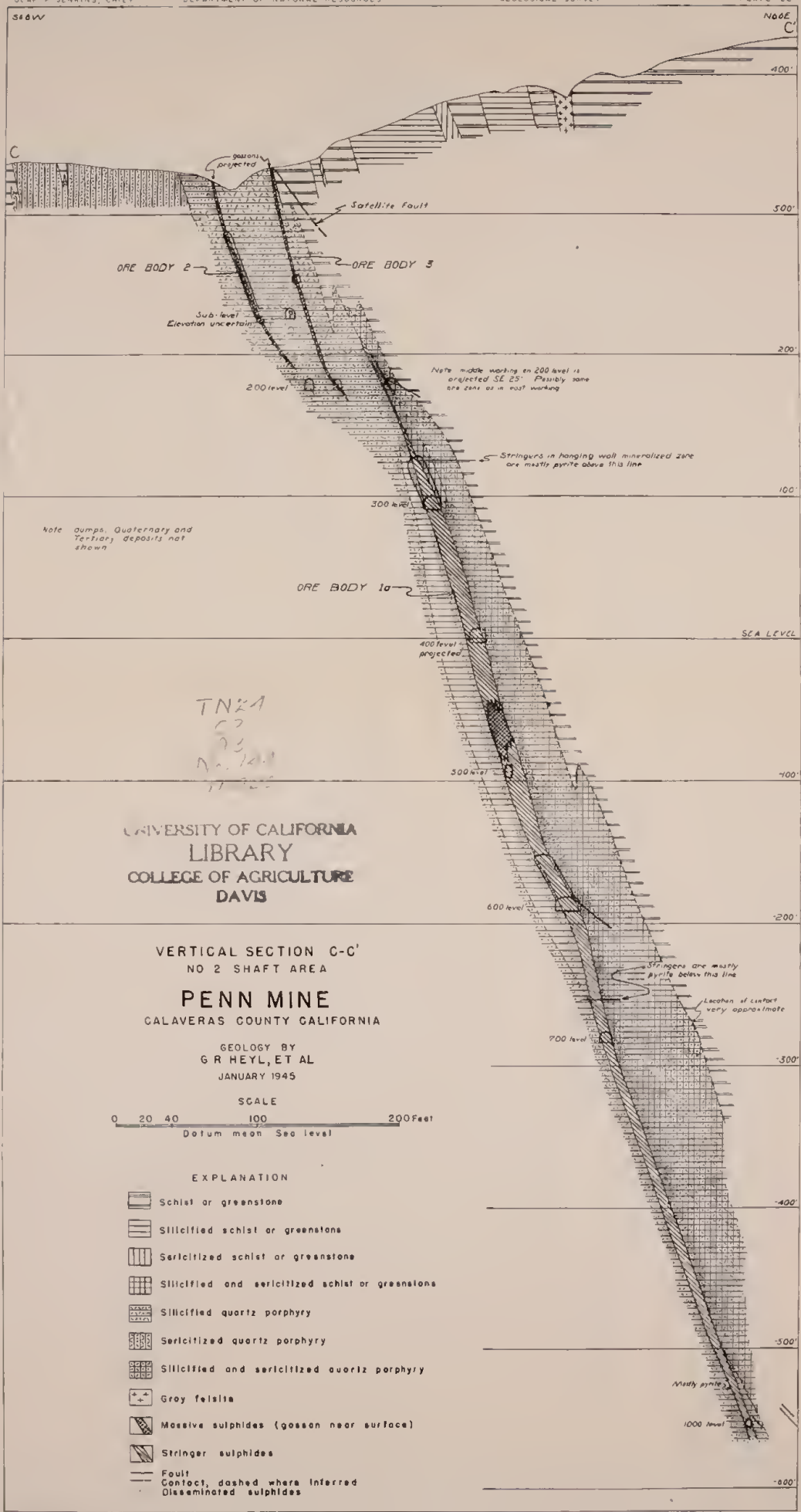
1000 level

1100 level

EXPLANATION

- Schist or greenstone
- Silicified schist or greenstone
- Sericitized schist or greenstone
- Silicified and sericitized schist or greenstone
- Quartz porphyry
- Silicified quartz porphyry
- Silicified and sericitized quartz porphyry
- Gray felsite
- Massive sulphides (gossan near surface)
- Stringer sulphides
- Area favorable for exploration, designated by letter used in text
- Fault
- Contact, dashed when inferred
- Dip of schistosity
- Disseminated sulphides
- h Hematitic jasper
- q Quartz vein

January 1945



VERTICAL SECTION C-C'
NO 2 SHAFT AREA

PENN MINE

CALAVERAS COUNTY CALIFORNIA

GEOLOGY BY
G R HEYL, ET AL
JANUARY 1945

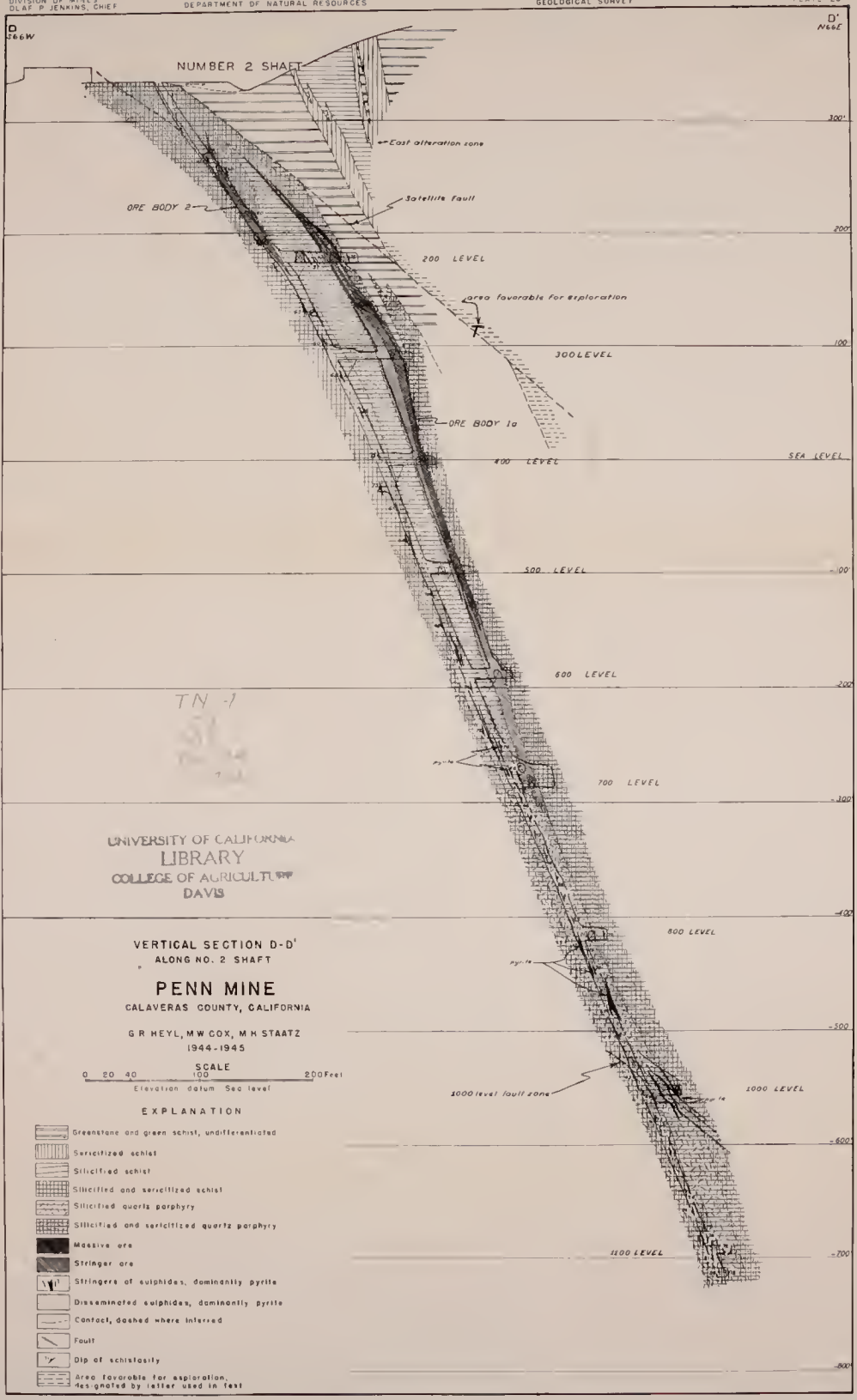
SCALE

0 20 40 100 200 Feet

Datum mean Sea level

EXPLANATION

- Schist or greenstone
- Silicified schist or greenstone
- Sericitized schist or greenstone
- Silicified and sericitized schist or greenstone
- Silicified quartz porphyry
- Sericitized quartz porphyry
- Silicified and sericitized quartz porphyry
- Grey felsite
- Massive sulphides (gossan near surface)
- Stringer sulphides
- Fault
- Contact, dashed where inferred
- Disseminated sulphides



VERTICAL SECTION D-D'
ALONG NO. 2 SHAFT

PENN MINE

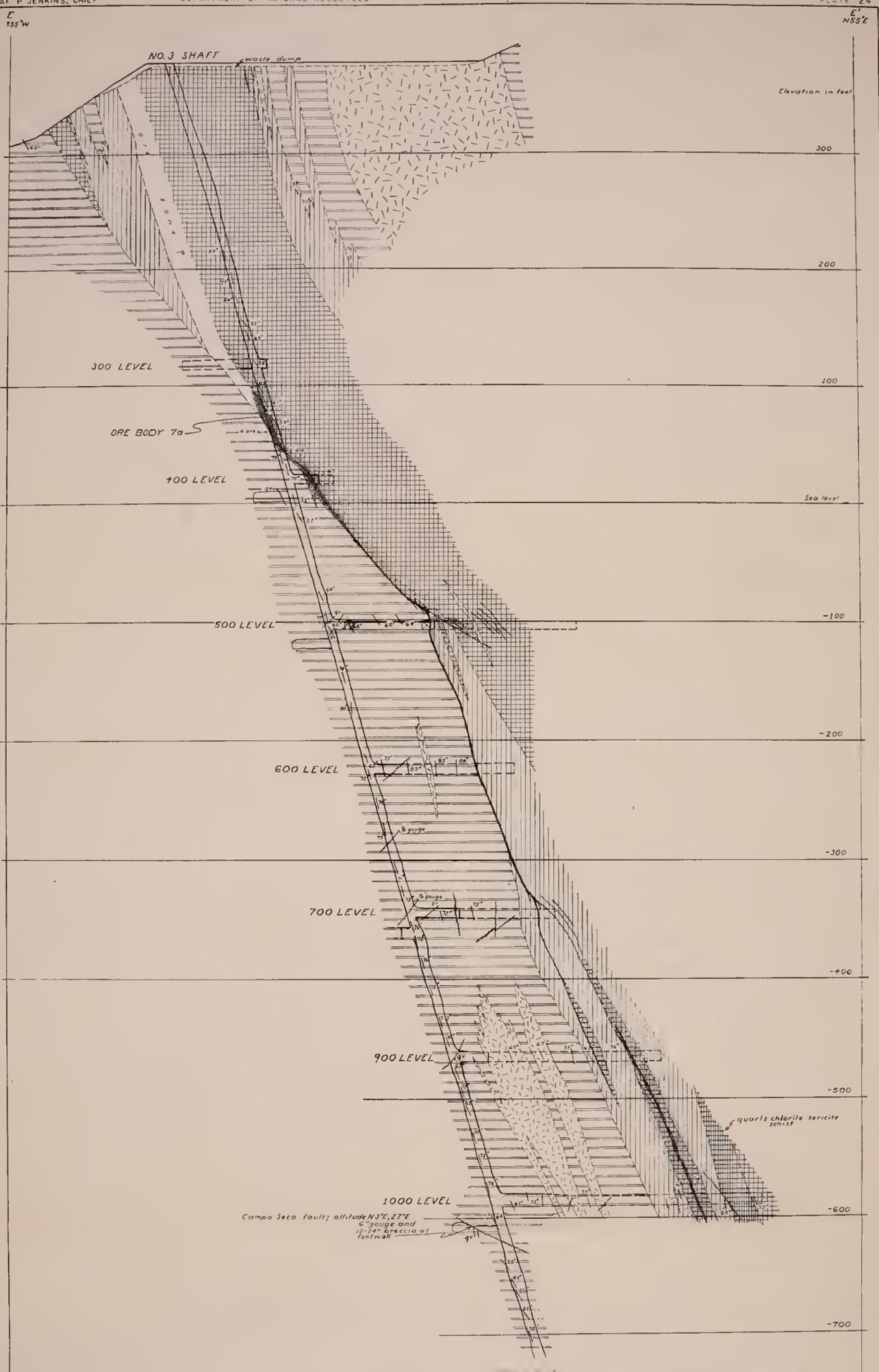
CALAVERAS COUNTY, CALIFORNIA

G R HEYL, M W COX, M H STAATZ
1944-1945

SCALE
0 20 40 100 200 Feet
Elevation datum Sea level

EXPLANATION

- Greenstone and green schist, undifferentiated
- Sericitized schist
- Silicified schist
- Silicified and sericitized schist
- Silicified quartz porphyry
- Silicified and sericitized quartz porphyry
- Massive ore
- Stringer ore
- Stringers of sulphides, dominantly pyrite
- Disseminated sulphides, dominantly pyrite
- Contact, dashed where inferred
- Fault
- Dip of schistosity
- Area favorable for exploration, designated by letter used in text



EXPLANATION

- Massive ore
- Stringers of sulphides, dominantly pyrite
- Disseminated sulphides, dominantly pyrite
- Sericitized schist
- Silicified and sericitized schist
- Greenstone and green schist undifferentiated
- Quartz porphyry
- Contact dashed where inferred
- Fault or fault zone
- 75° Dip of schistosity
- Qtz Quartz vein

VERTICAL SECTION E-E'
ALONG NO 3 SHAFT

PENN MINE
CALAVERAS COUNTY CALIFORNIA

GEOLOGY BY
G R HEYL, D.G WYANT, M W COX
1944-1945

SCALE
0 20 40 100 200 Feet
Elevation datum Sea level

EXPLANATION

SEDIMENTARY AND VOLCANIC ROCKS

QUATERNARY

- Qal — Alluvium
- Ot — Terrace gravel, sand, and volcanic ash

TERTIARY

- Tg — Gravel, sandstone, mudstone, and limonite rock

Unconformity

JURASSIC

- Ja — Amador group: low grade metamorphosed volcanics
- Jaq — Quartz crystal tuff
- Jab — Meta-basalt, including pillow lava

INTRUSIVE ROCKS

- fel — Felsite
- qpb — Quartz porphyry breccia
- qp — Quartz porphyry

ALTERED ROCKS

- sil — Silicified rock
- s-si — Sericitized silicified rock
- ser — Sericitized rock

MISCELLANEOUS ROCKS

- ga — Gossan
- q — Quartz veins

- Contact observed inferred concealed
- Fault showing dip observed inferred
- Attitude of bed
- Attitude of schistosity plunge of lineation
- Vertical schistosity
- Dip of quartz vein
- Shaft
- Adit
- Pit and dump
- Trench
- Building
- Triangulation point

GEOLOGIC MAP
OF THE
GRAYHOUSE AREA
AMADOR COUNTY, CALIFORNIA

GEOLOGY BY
G. R. HEYL AND M. H. STAATZ
TOPOGRAPHY BY
M. W. COX, D. G. WYANT AND M. H. STAATZ
TRIANGULATION BY
M. H. STAATZ AND M. W. COX

1943 - 1945

SCALE

0 100 200 400 800 Feet

Contour interval 10 feet
Elevation datum Sea level
Coordinates refer to Penn mine area triangulation system

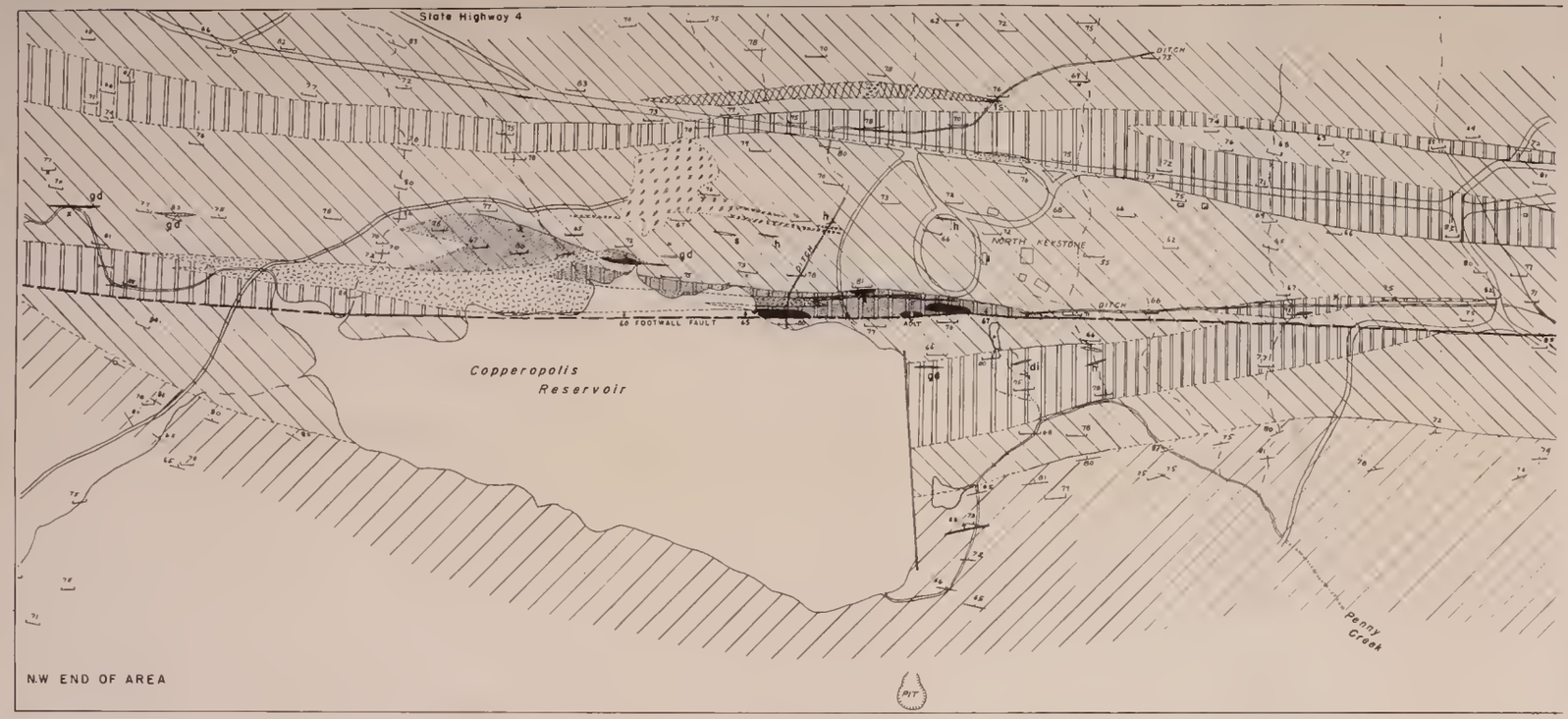

MAP
OF THE
COPPER MINES
of
CALAVERAS COUNTY
FROM ACTUAL SURVEY AND MEASUREMENT.
Surveyed and drawn by
HANDY & WALLACE
CIVIL ENGINEERS.
Published by A. GENSOUL, 511 Montgomery St.
San Francisco Jany 1st 1864.
Scale of 40 Chains to one Inch or 2 inches to one Mile
UNIVERSITY OF CALIFORNIA
LIBRARY
COLLEGE OF AGRICULTURE
DAVIS
BEAR MOUNTAINS
WEEHAWKEN DISTRICT
REED OR COPPEROPOLIS LODE
CARMEN CITY
COPPEROPOLIS
BEAR CREEK LODE
SALT SPRING VALLEY
RESERVOIR
HARLEM RANGE
MASSACHUSETTS RANGE
BLACK CREEK
LITTLE JOHN CREEK
PROPOSED STOCKTON AND COPPEROPOLIS RAILROAD
GOPHER MOUNTAINS
GOPHER DISTRICT
TELEGRAPH CITY
CORNWALL DISTRICT
STANISLAUS GRANT
TABLE MOUNTAIN
STANISLAUS RIVER
KNIGHTS FERRY
JENNY LIND
CALAVERAS RIVER
RUSHVILLE DISTRICT
SECTIONAL VIEW OF THE REED LODE
TRACED FROM ORIGINAL THROUGH COURTESY OF G. McM. ROSS

GEOLOGIC MAP
OF THE
COPPEROPOLIS DISTRICT
COPPEROPOLIS, CALAVERAS COUNTY, CALIFORNIA

BY
G R HEYL AND J B HADLEY

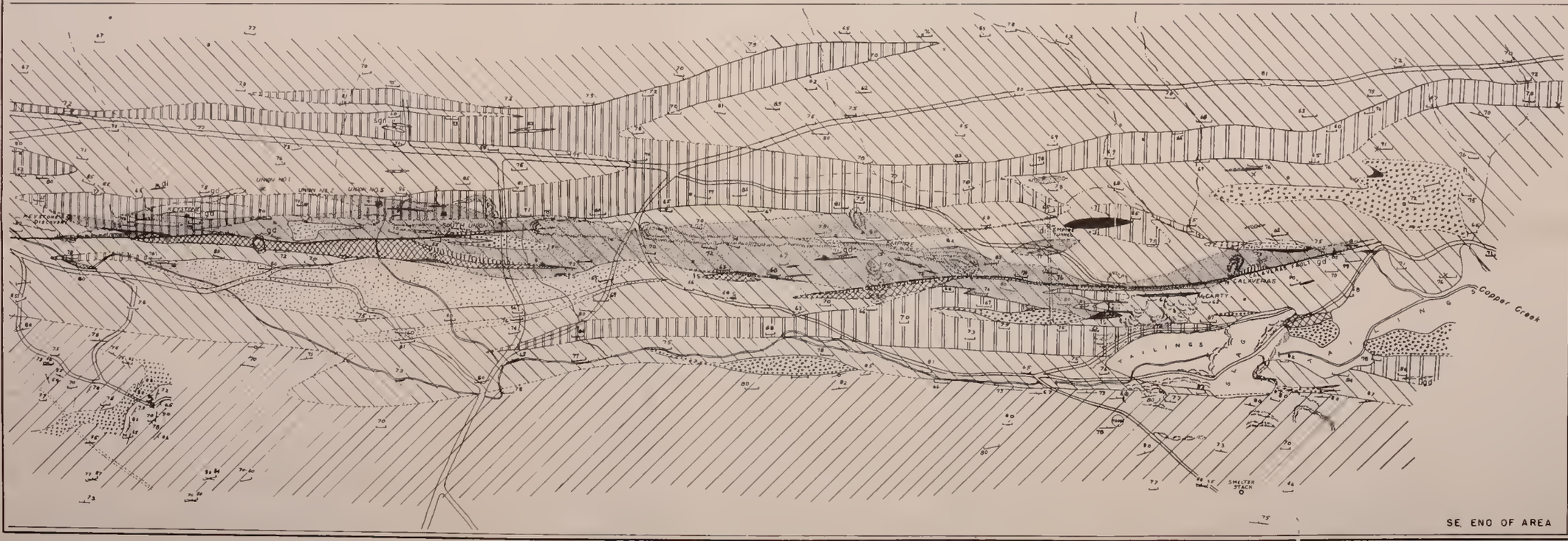
SCALE

0 200 600 1000 Feet



EXPLANATION

- Gossan
- Quartz vein
- Chloritized rock
- Granodiorite
- Diorite and quartz diorite
- Hornblendite
- Hornblendite breccia
- Saussuritized gabbro
- Serpentine
- Talc schist
- Small dikes, type indicated by letter symbol
- Argillaceous slate
- Schist and greenstone of volcanic origin, with slaty tuff intercalations
- Bedded hornstone, tuff, and volcanic breccia
- Contact, dashed where approximately located
- Fault showing dip dashed where approximately located
- Trace of individual bed
- Strike and dip of beds
- Vertical beds
- Strike and dip of cleavage or schistosity
- Vertical cleavage or schistosity
- Caved shaft
- Pit or trench
- Shaft
- Dump



EXPLANATION

- Contour of normal magnetic dip
- Contour of anomalous magnetic dip
- Shaft
- Caved shaft
- Road

DIP NEEDLE SURVEY
of a portion of the

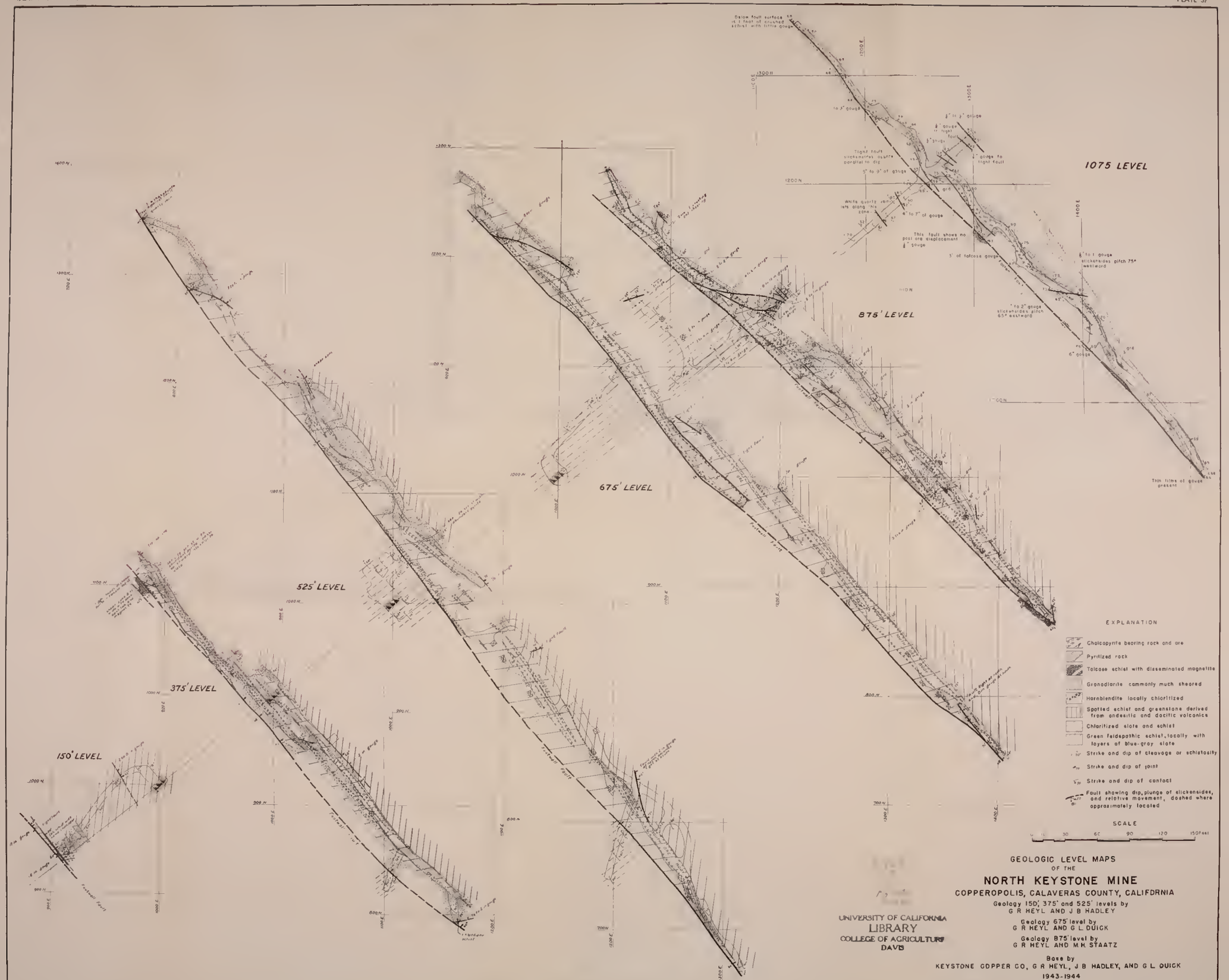
COPPEROPOLIS DISTRICT

CALAVERAS COUNTY, CALIFORNIA

BY
G.R. HEYL M.W. COX D.G. WYANT AND J.H. ERIC

MAY 1944

SCALE
0 100 200 500 800 Feet



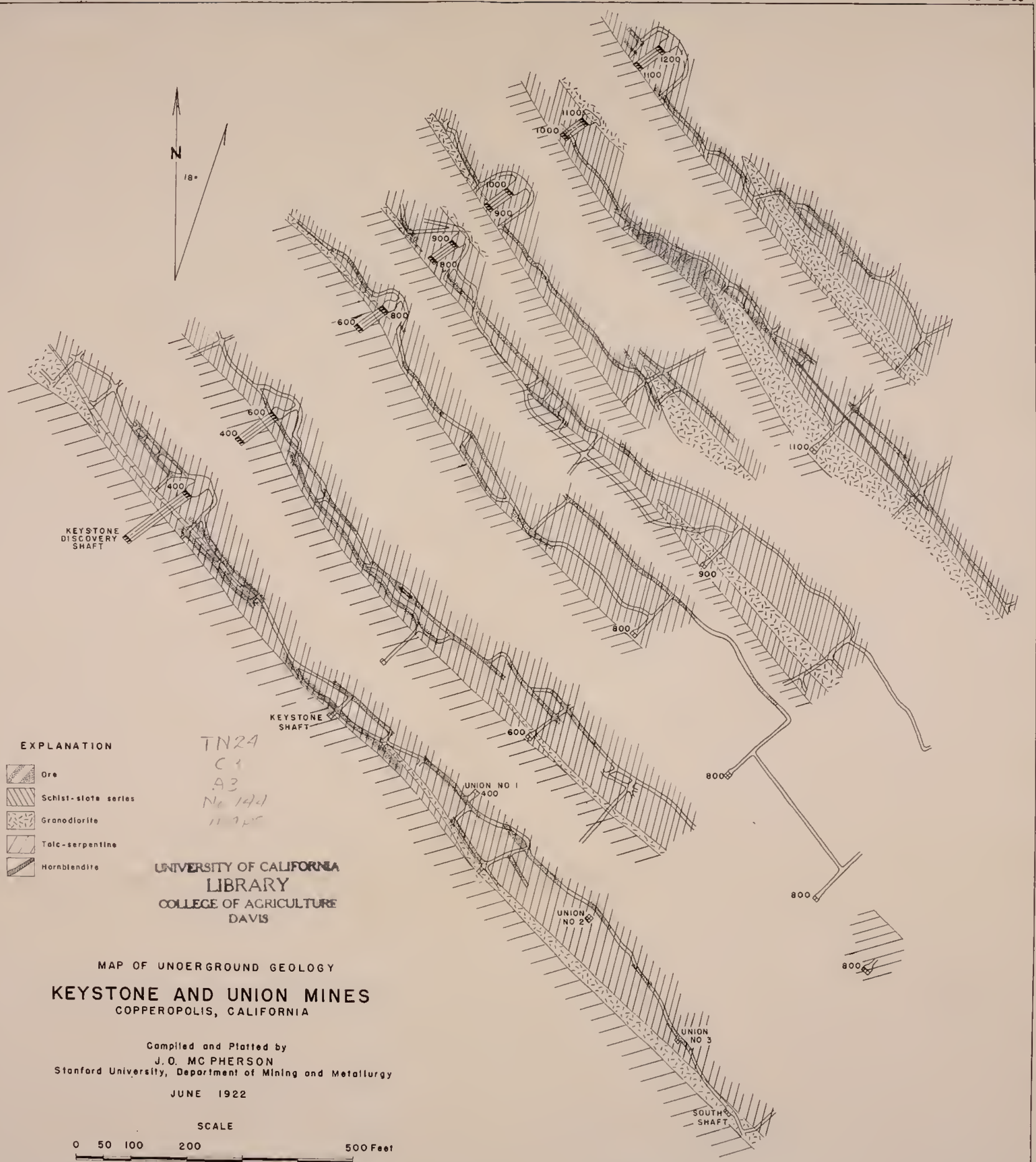
GEOLOGIC LEVEL MAPS
OF THE
NORTH KEYSTONE MINE
COPPEROPOLIS, CALAVERAS COUNTY, CALIFORNIA

Geology 150', 375' and 525' levels by
G R HEYL AND J B HADLEY

Geology 675' level by
G R HEYL AND G L DUICK

Geology 875' level by
G R HEYL AND M H STAATZ

Base by
KEYSTONE COPPER CO, G R HEYL, J B HADLEY, AND G L DUICK
1943-1944



MAP OF UNDERGROUND GEOLOGY

KEYSTONE AND UNION MINES

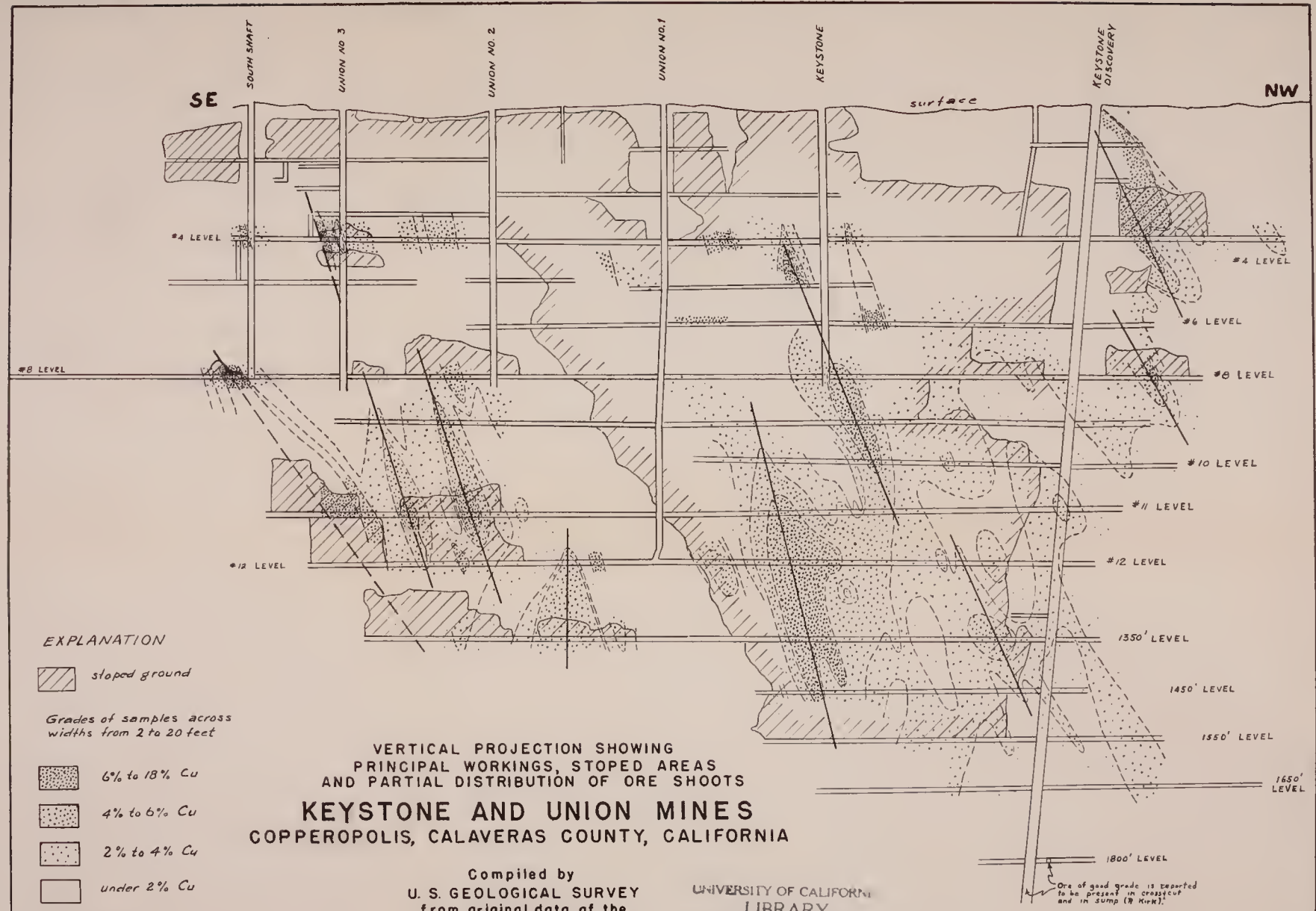
COPPEROPOLIS, CALIFORNIA

Compiled and Platted by
J. O. MC PHERSON
Stanford University, Department of Mining and Metallurgy

JUNE 1922

SCALE

0 50 100 200 500 Feet



EXPLANATION

stoped ground

Grades of samples across widths from 2 to 20 feet

6% to 18% Cu

4% to 6% Cu

2% to 4% Cu

under 2% Cu

Axis of ore shoot

Axis of possible ore shoot

VERTICAL PROJECTION SHOWING
PRINCIPAL WORKINGS, STOPED AREAS
AND PARTIAL DISTRIBUTION OF ORE SHOOTS

KEYSTONE AND UNION MINES

COPPEROPOLIS, CALAVERAS COUNTY, CALIFORNIA

Compiled by
U. S. GEOLOGICAL SURVEY
from original data of the
CALAVERAS COPPER CO.
as of March 8, 1930

SCALE

0 100 300 500 Feet

J. B. H.

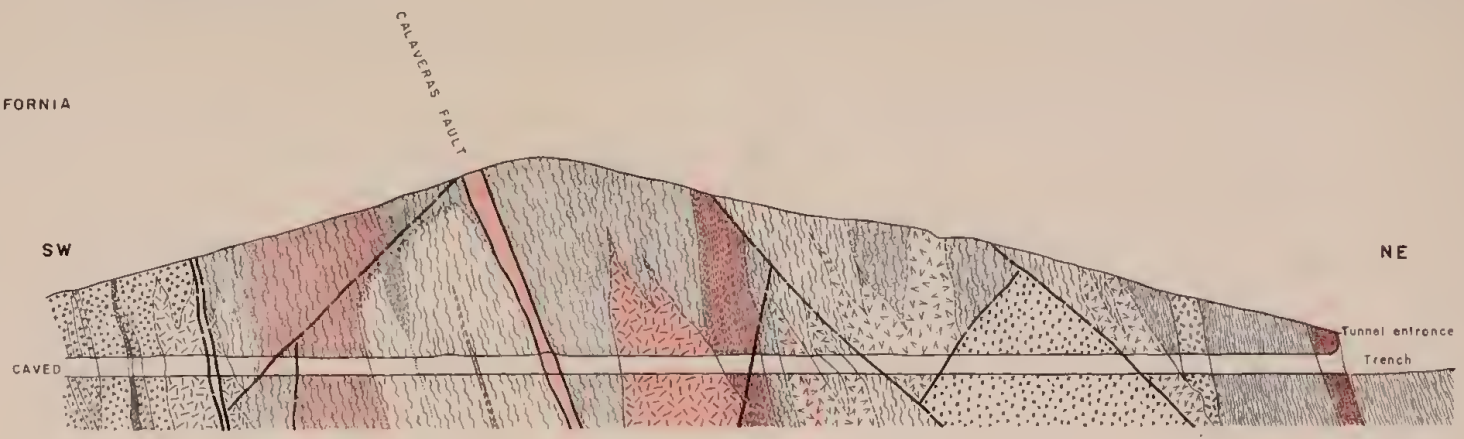
GEOLOGIC MAP AND SECTION OF THE EMPIRE TUNNEL COPPEROPOLIS, CALAVERAS COUNTY, CALIFORNIA

BY
G. R. HEYL AND M. W. COX

NOVEMBER 1943

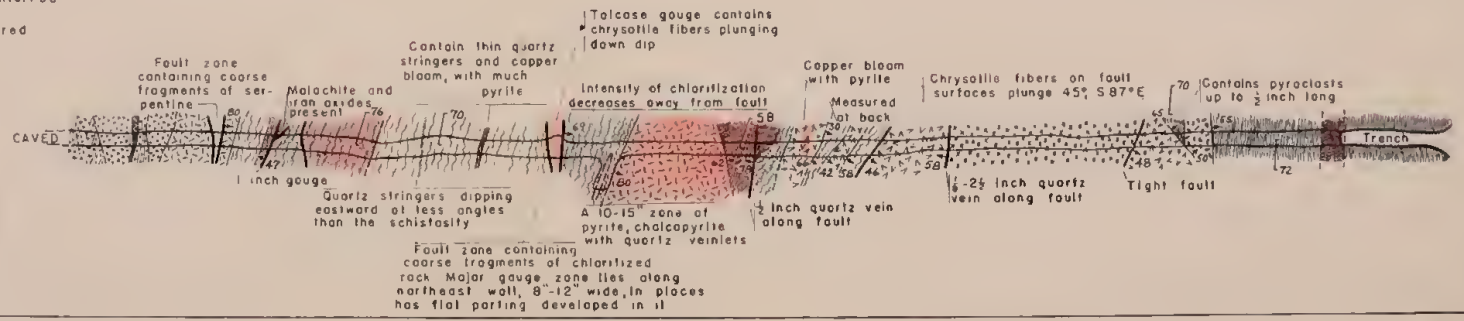
EXPLANATION

- Zone of quartz veins
- Pyritized rock
- Chloritized rock
- Granodiorite
- Hornblende diorite
- Hornblendite
- Schistose (sheared) saussuritized gabbro
- Saussuritized gabbro
- Serpentine
- Felsite
- Slaty pyroclastics
- Slate
- Green schist
- Contact, showing dip, dashed where inferred
- Fault, showing dip, dashed where inferred
- Attitude of cleavage or schistosity



SCALE

0 10 30 60 90 120 150 Feet



GEOLOGIC MAP OF QUAIL HILL MINE AREA

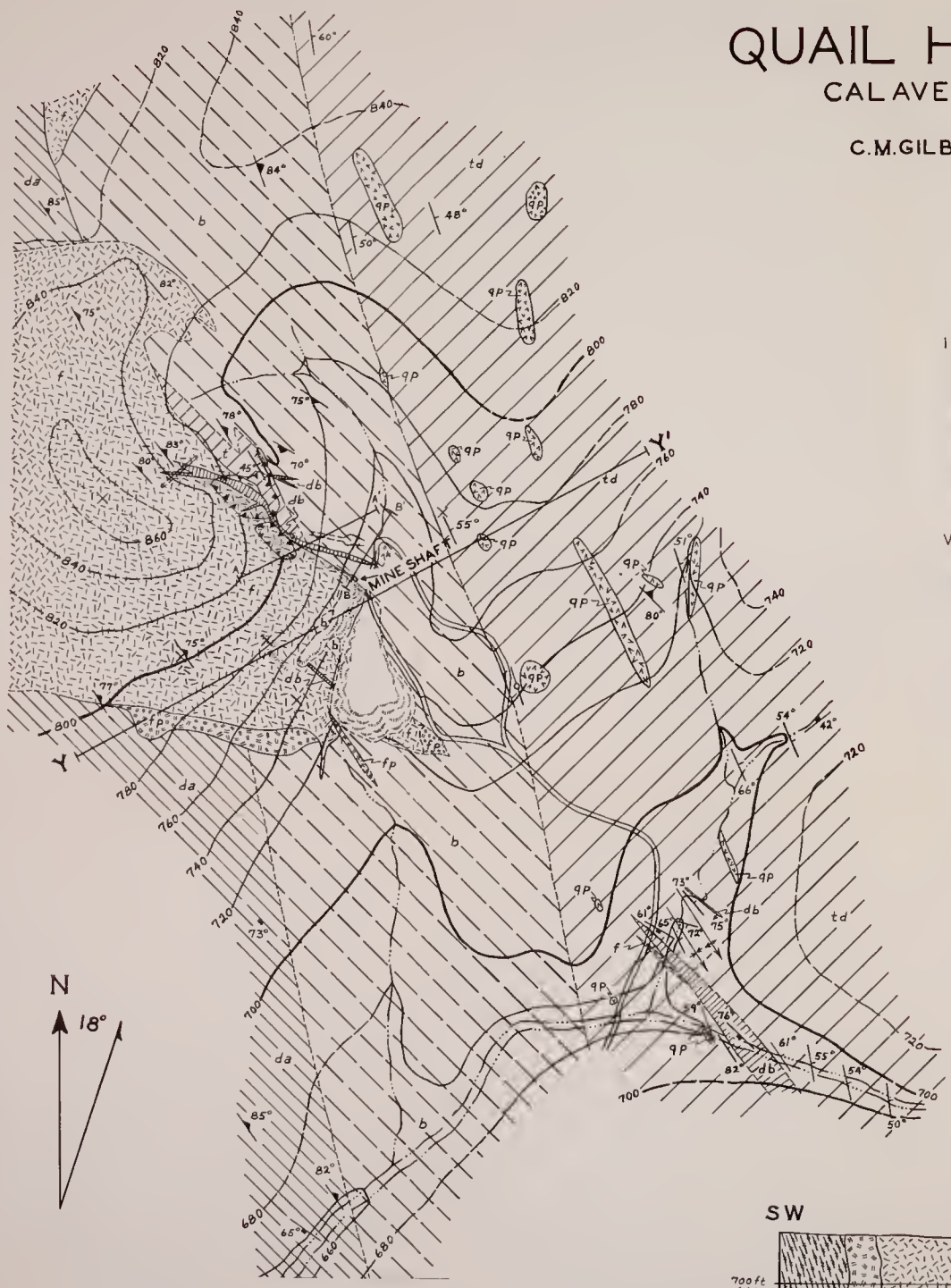
CALAVERAS CO. CALIFORNIA

BY

C.M.GILBERT J.B.HADLEY G.R.HEYL

U.S.GEOLOGICAL SURVEY

1945



EXPLANATION

- Gossan and pyritized rock

INTRUSIVE ROCKS

- db — Diabase porphyry and diabase
- fp — Felsite porphyry
- f — Felsite
- qp — Quartz porphyry breccia

VOLCANIC ROCKS

- td — Bedded tuffs with intercalated dacite and diabase
- b — Basaltic flows and volcanic breccia
- t — Light-colored bedded tuff
- da — Dacite and andesite flows

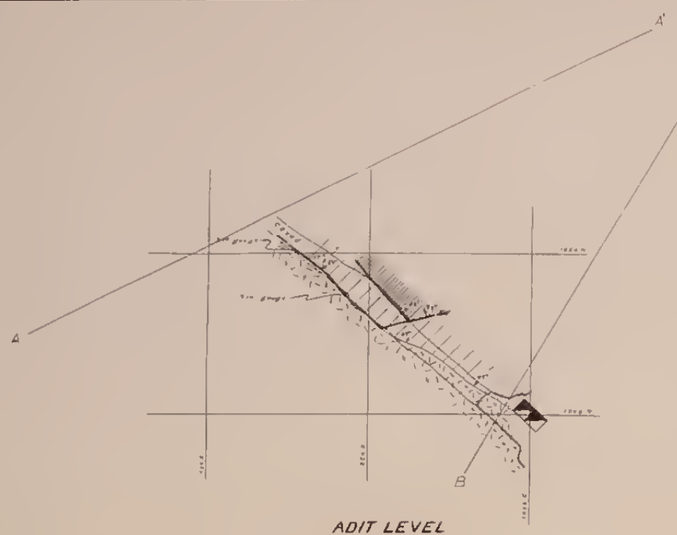
- Contact
- Contour line
- Strike and dip of beds
- Strike and dip of schistasity
- Strike and dip of joint
- Anticlinal axis showing plunge
- Synclinal axis showing plunge
- Road
- Shaft
- Caved shaft
- Small pit
- Open cut
- Adit and trench
- Mine dump

SCALE

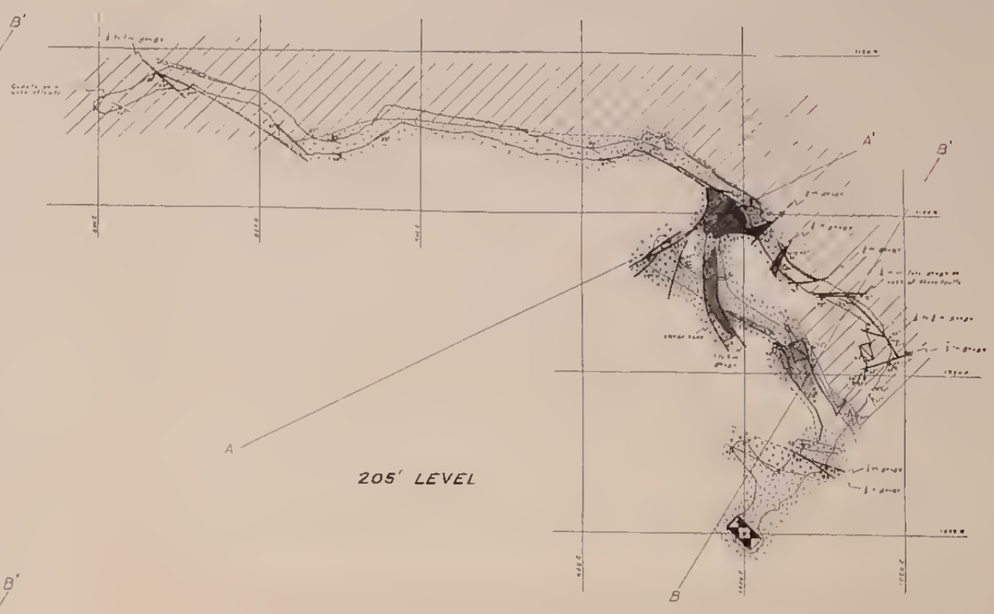
0 100 200 500 FEET

Contour interval 20 feet
Datum approximate sea level

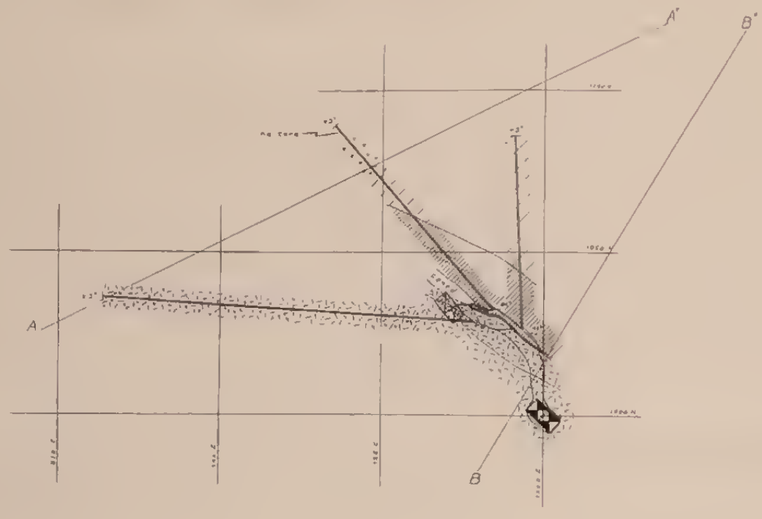
GEOLOGIC SECTION Y-Y'



ADIT LEVEL

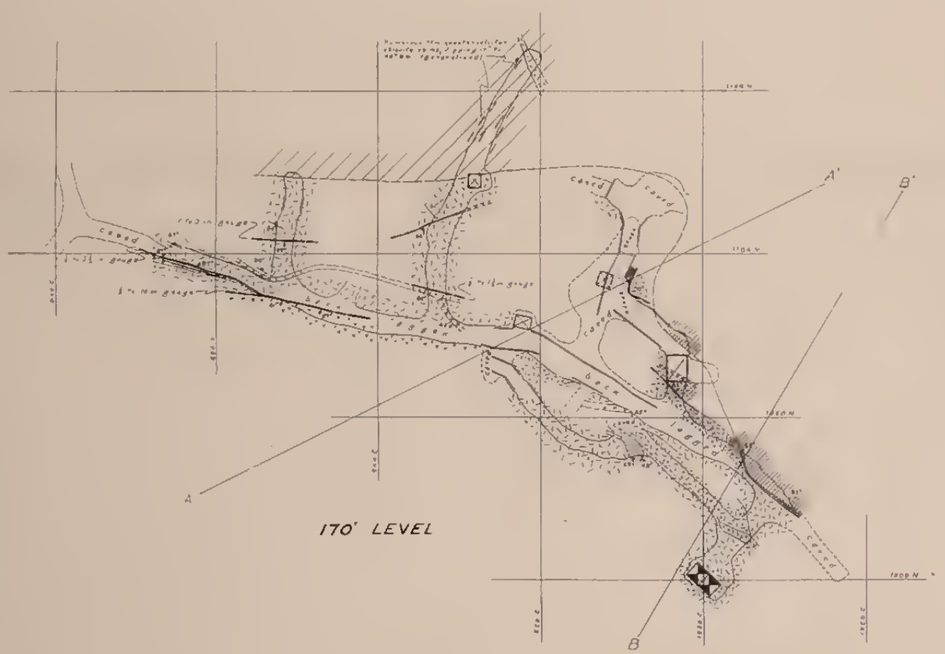


205' LEVEL

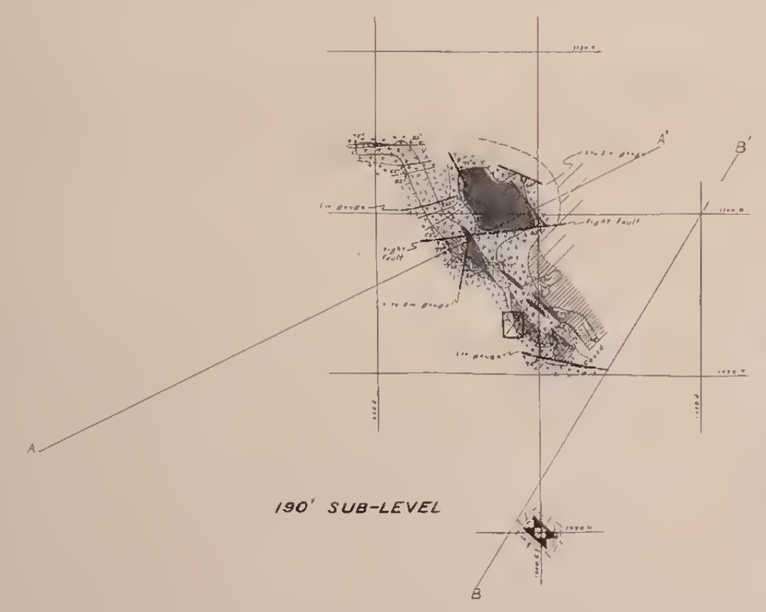


70' LEVEL

270' LEVEL



170' LEVEL



190' SUB-LEVEL

GEOLOGIC LEVEL MAPS
OF THE

QUAIL HILL MINE

CALAVERAS COUNTY, CALIFORNIA

Geology by
G R HEYL AND M W COX ADIT LEVEL
G R HEYL, 70' AND 170' LEVELS
G R HEYL, J B HADLEY, AND C M GILBERT 190' SUB-LEVEL
G. R HEYL AND J B. HADLEY 205' AND 270' LEVELS

1943-1944

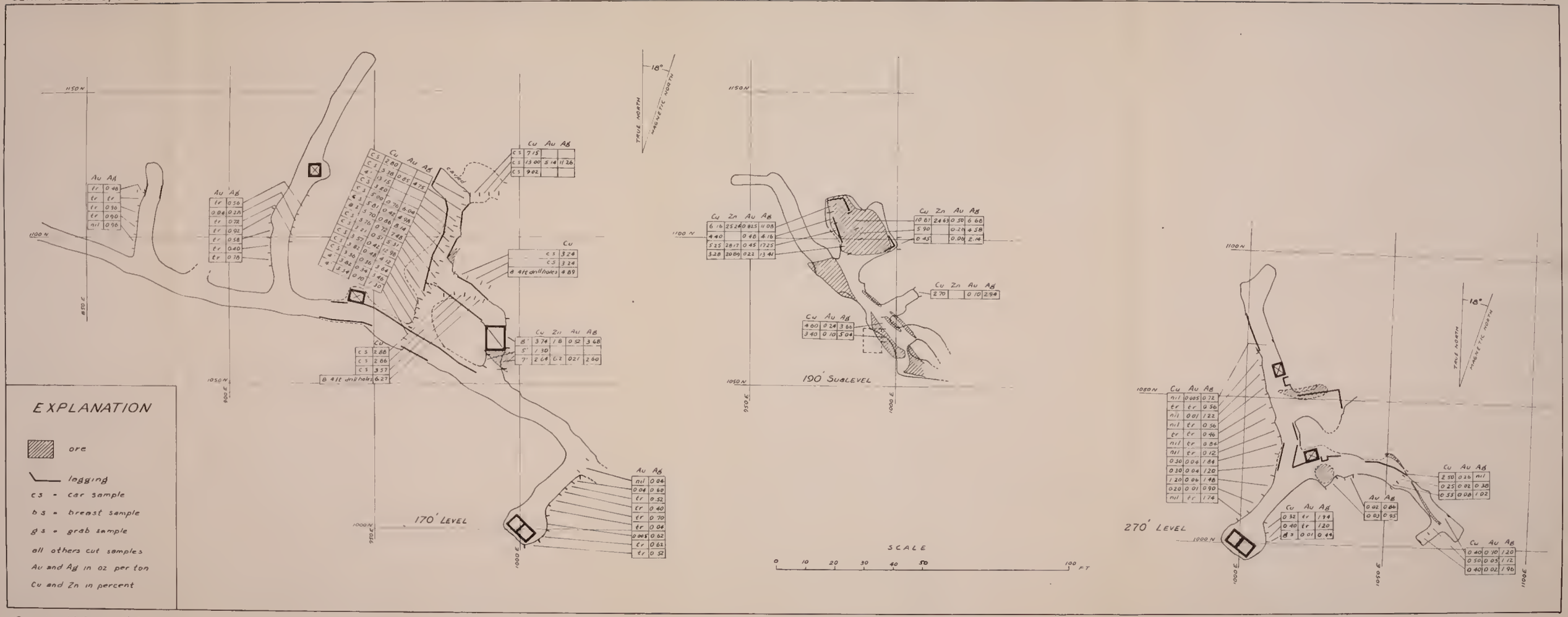
SCALE

0 10 20 40 60 80 100 Feet

EXPLANATION

- Massive copper-zinc ore
- Banded copper-zinc ore
- Magnetite rock
- Pyritized rock
- Intensely sodiumized rock
- Diabase and diabase porphyry in places sodiumized
- Felsite breccia
- Felsite porphyry
- Felsite
- Light-colored tuffs
- Basaltic flows and volcanic breccia
- Contact showing dip
- Vertical contact
- Fault showing dip
- Vertical fault
- Strike and dip of beds
- Vertical beds
- Strike and dip of schistosity or cleavage
- Vertical schistosity or cleavage
- Plunge of slickensides or linear structure
- Strike and dip of joint
- Approximately horizontal core-drill holes
- Inclined core-drill holes (projected)
- Lagging concealing walls (inaccessible workings indicated by broken lines)
- Raise
- Winze
- Chute

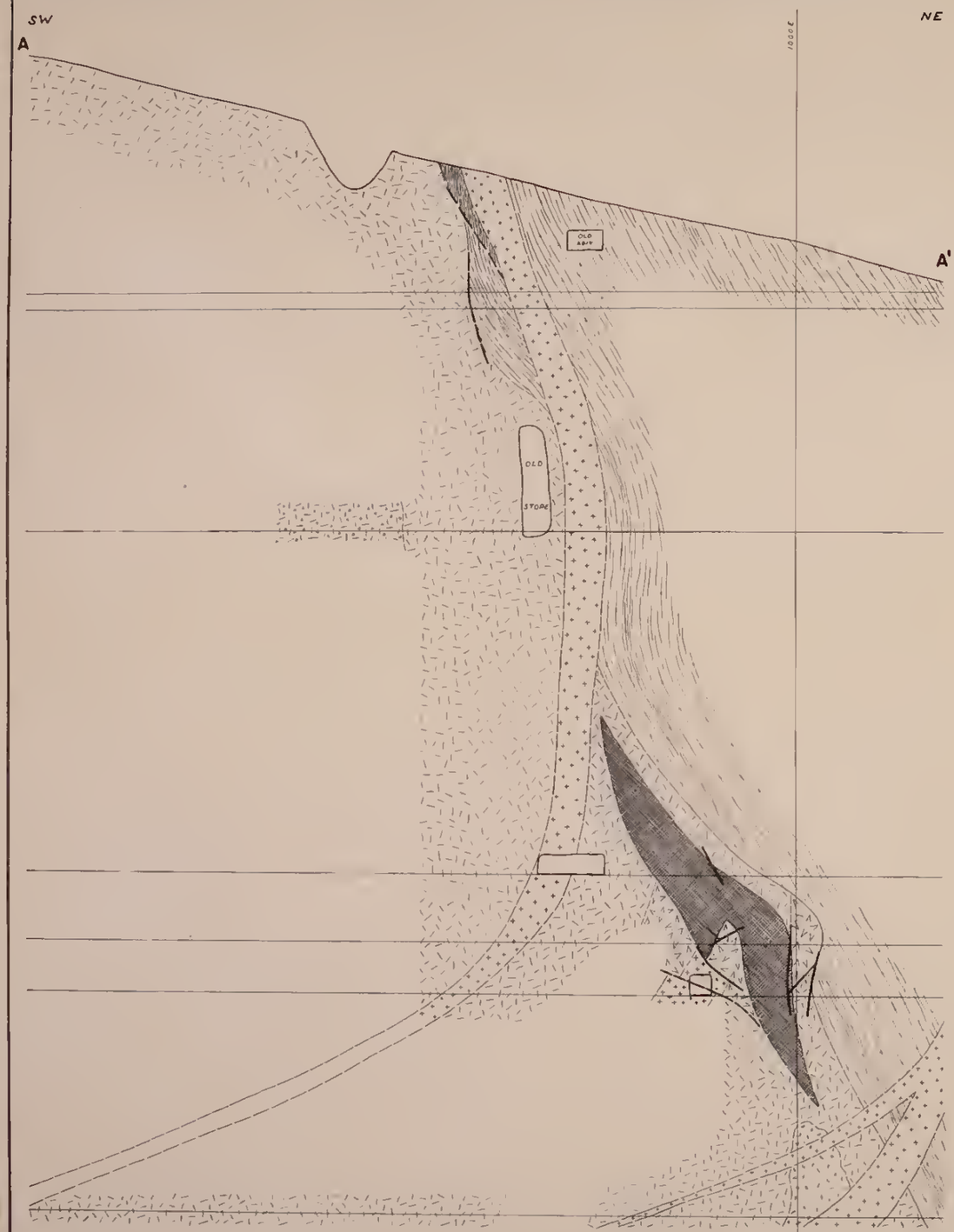
N

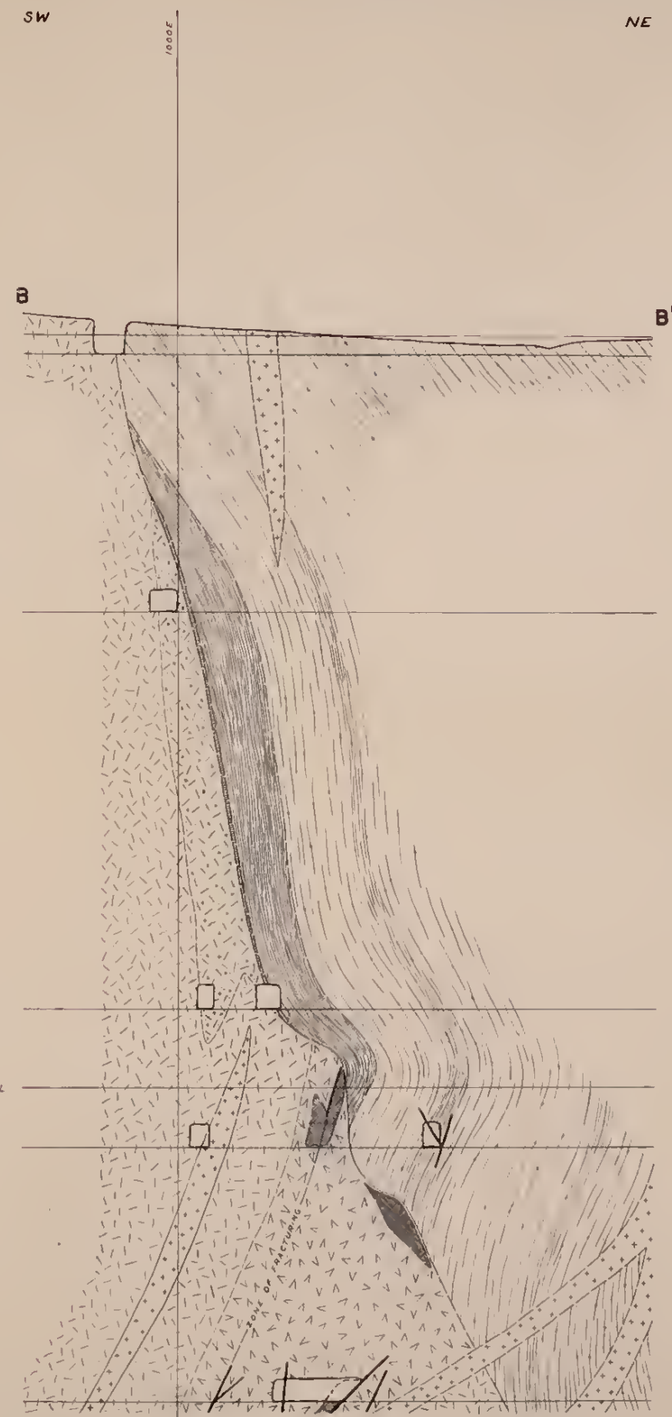


Base by U.S. Geological Survey, 1943

ASSAY MAP OF THE QUAIL HILL MINE

BASED ON DATA FROM THE PACIFIC MINING CO. AND OTHER SOURCES





GEOLOGIC SECTIONS
THROUGH

QUAIL HILL MINE

CALAVERAS COUNTY, CALIFORNIA

BY

G R HEYL

1944

SCALE

0 10 20 40 60 80 100 Feet

EXPLANATION

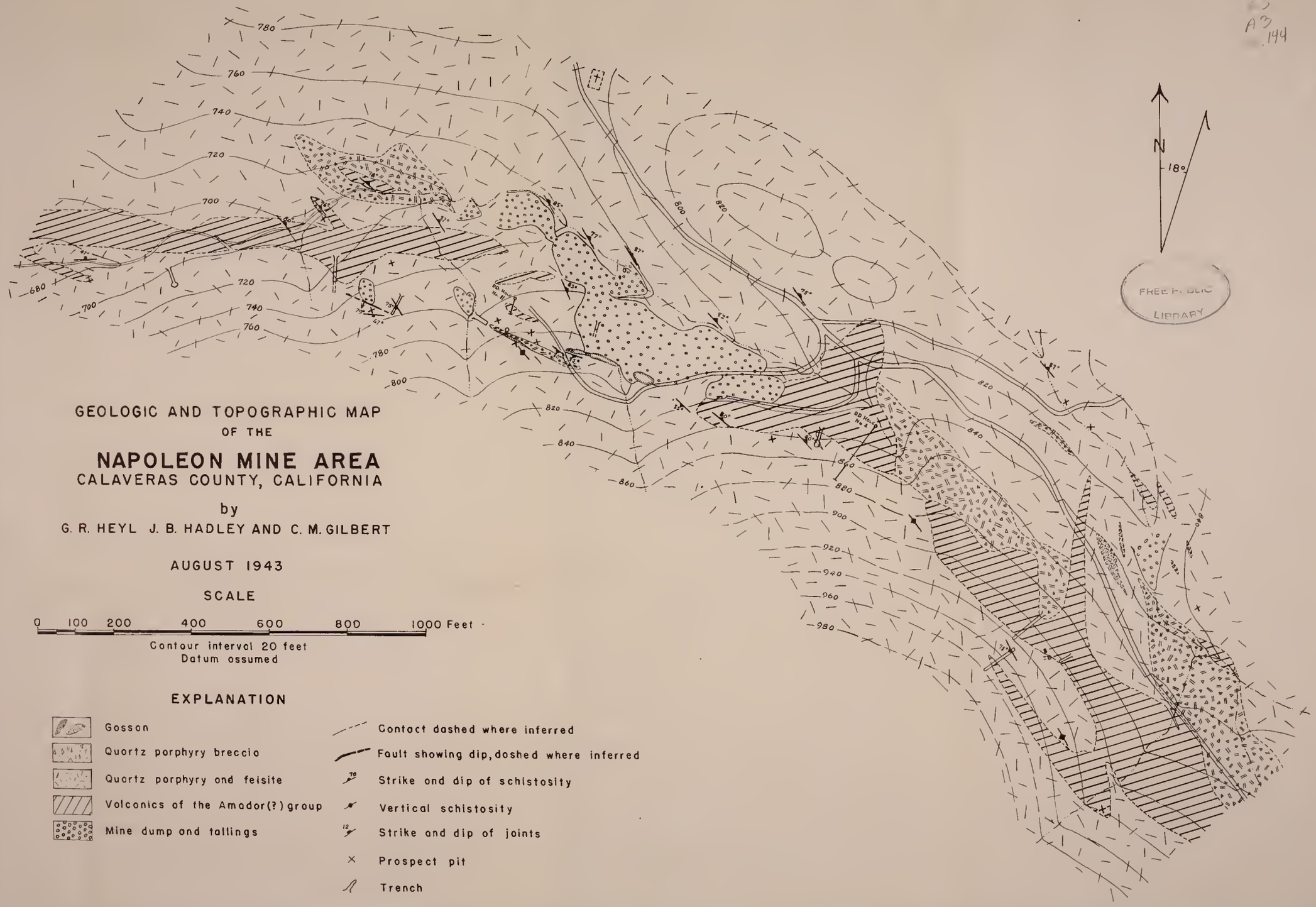
- Massive and boritic copper-zinc ore (mostly stoped out)
- Magnetite rock
- Pyritized rock
- Intensely kaolinized felsite
- Diabase and diabase porphyry, in places kaolinized
- Felsite breccia
- Felsite porphyry
- Felsite
- Light-colored tuffs
- Basaltic flows and volcanic breccia
- Contact
- Fault
- Mine workings

DIVISION OF MINES
OLAF P JENKINS, CHIEF

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 144
PLATE 45



GEOLOGIC AND TOPOGRAPHIC MAP
OF THE
NAPOLEON MINE AREA
CALAVERAS COUNTY, CALIFORNIA

by
G. R. HEYL J. B. HADLEY AND C. M. GILBERT

AUGUST 1943

SCALE

0 100 200 400 600 800 1000 Feet

Contour interval 20 feet
Datum assumed

EXPLANATION

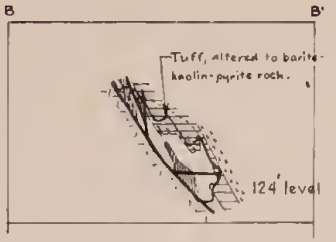
- Gosson
- Quartz porphyry breccio
- Quartz porphyry and felsite
- Volcanics of the Amador(?) group
- Mine dump and tailings
- Contact dashed where inferred
- Fault showing dip, dashed where inferred
- Strike and dip of schistosity
- Vertical schistosity
- Strike and dip of joints
- Prospect pit
- Trench

GEOLOGIC MAP AND SECTIONS of the COLLIER MINE CALAVERAS COUNTY, CALIFORNIA

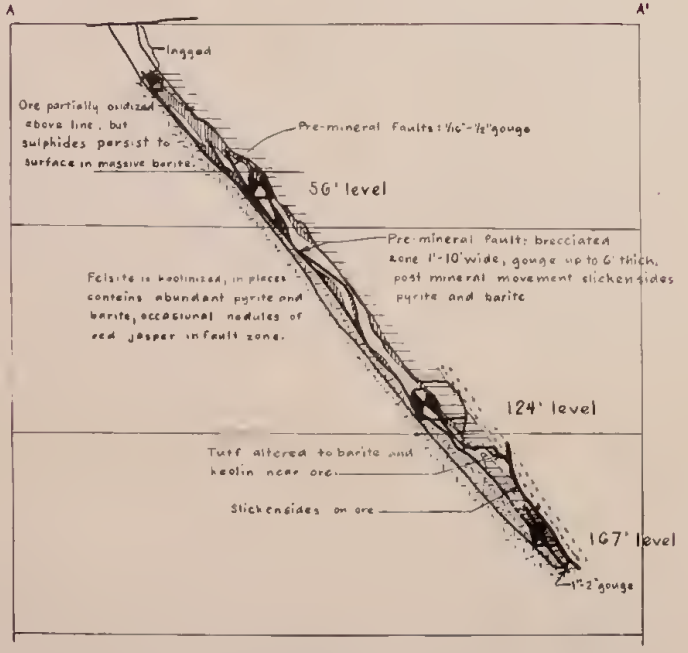
by

G.R HEYL AND M.W COX

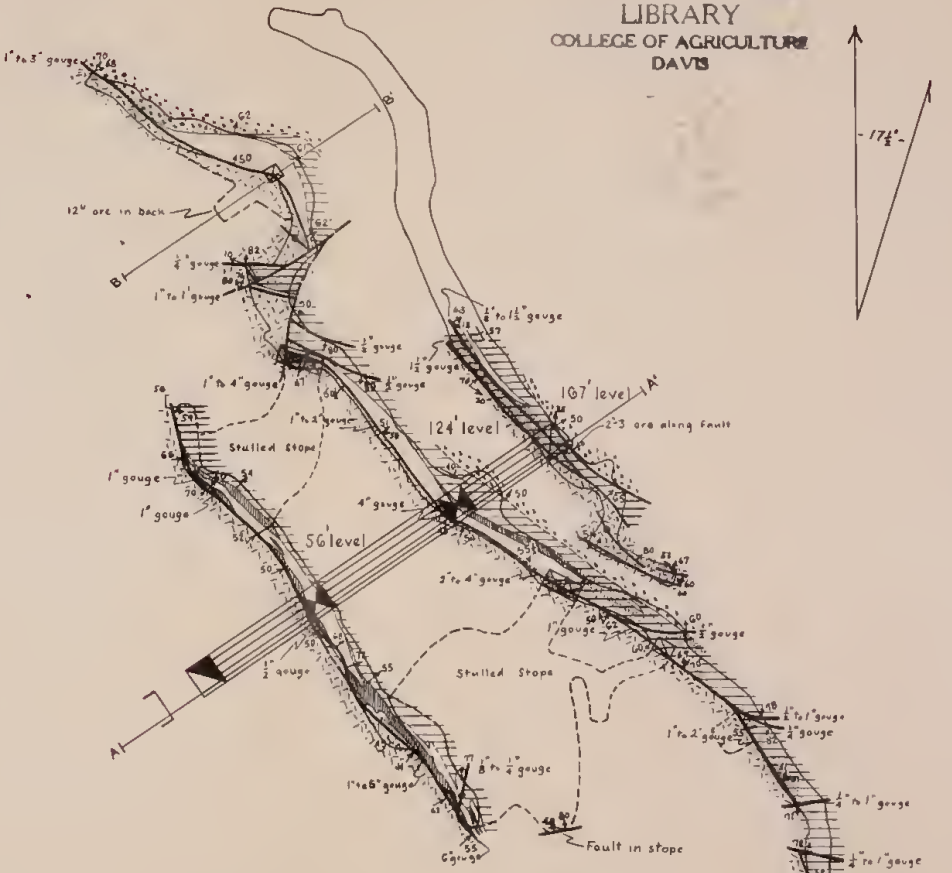
JANUARY 1944



Section B-B'
Geology from South Wall of Raise

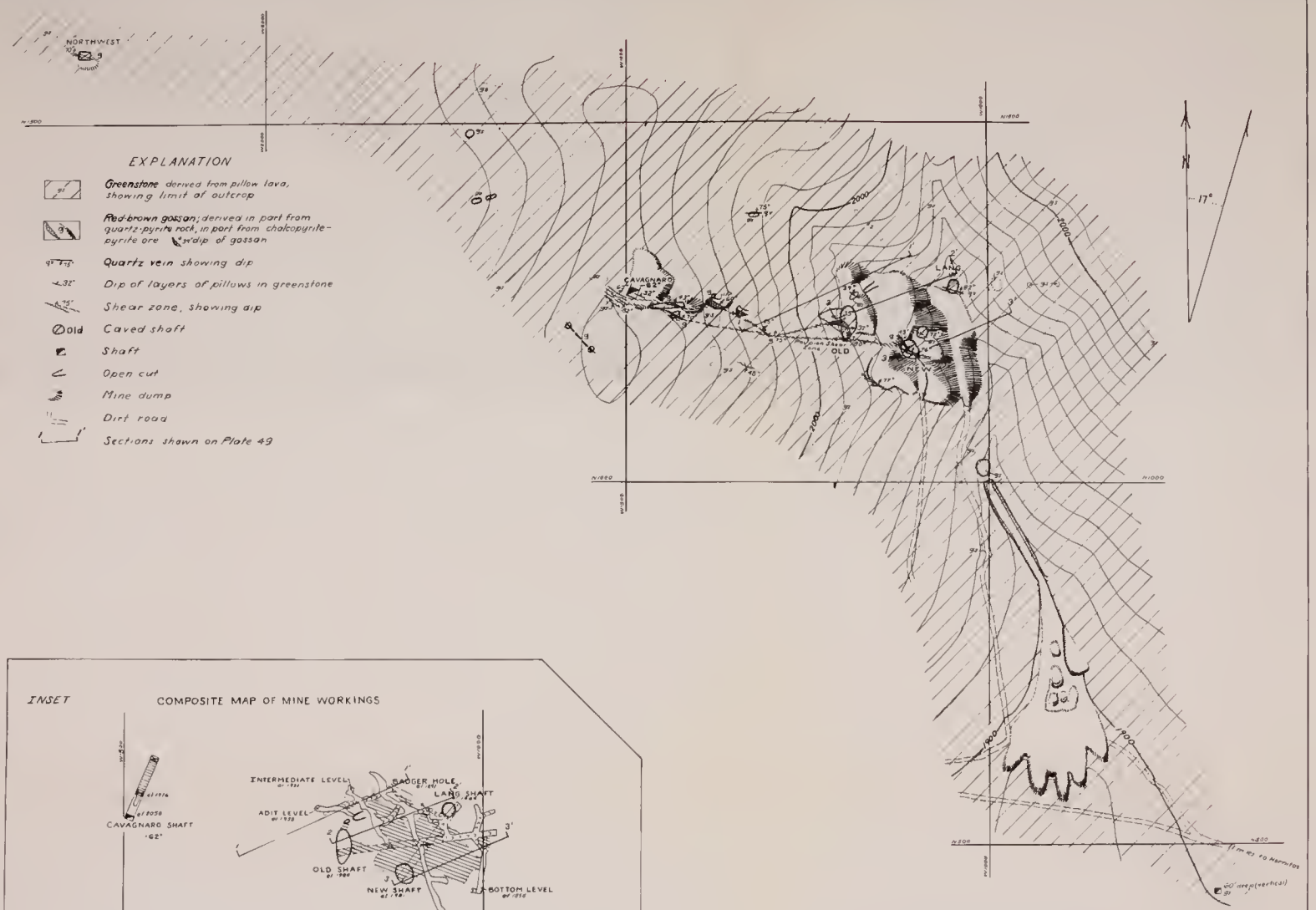


Section A-A'
Geology from South Wall of Shaft



Explanation

- Ore - sphalerite, pyrite, chalcopyrite, barite gangue.
- Barite rock, with minor amounts of sulphides.
- Pyritized rock
- Felsite, locally with feldspar phenocrysts
- Amygdaloidal greenstone.
- Fine grained bedded tuff
- Strike and dip of beds.
- Strike and dip of schistosity.
- Fault showing dip and plunge of slickensides.
- Vertical Fault.



GEOLOGIC MAP
OF

LA VICTORIA MINE

MARIPOSA COUNTY, CALIFORNIA

BY
D G WYANT AND M W COX

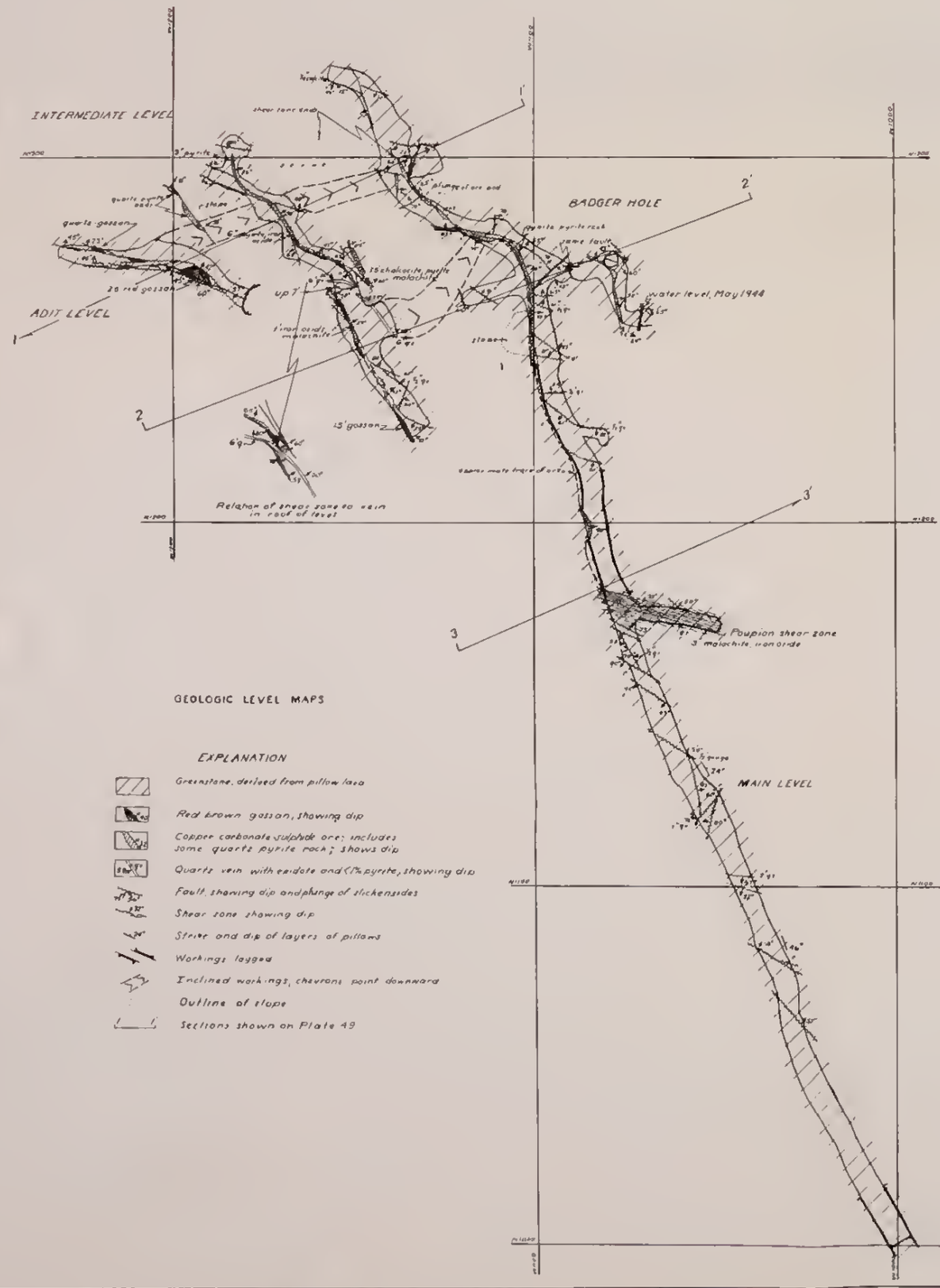
MAY 1944

SCALE

0 100 200 300 400 500 Feet

contour interval 10 feet

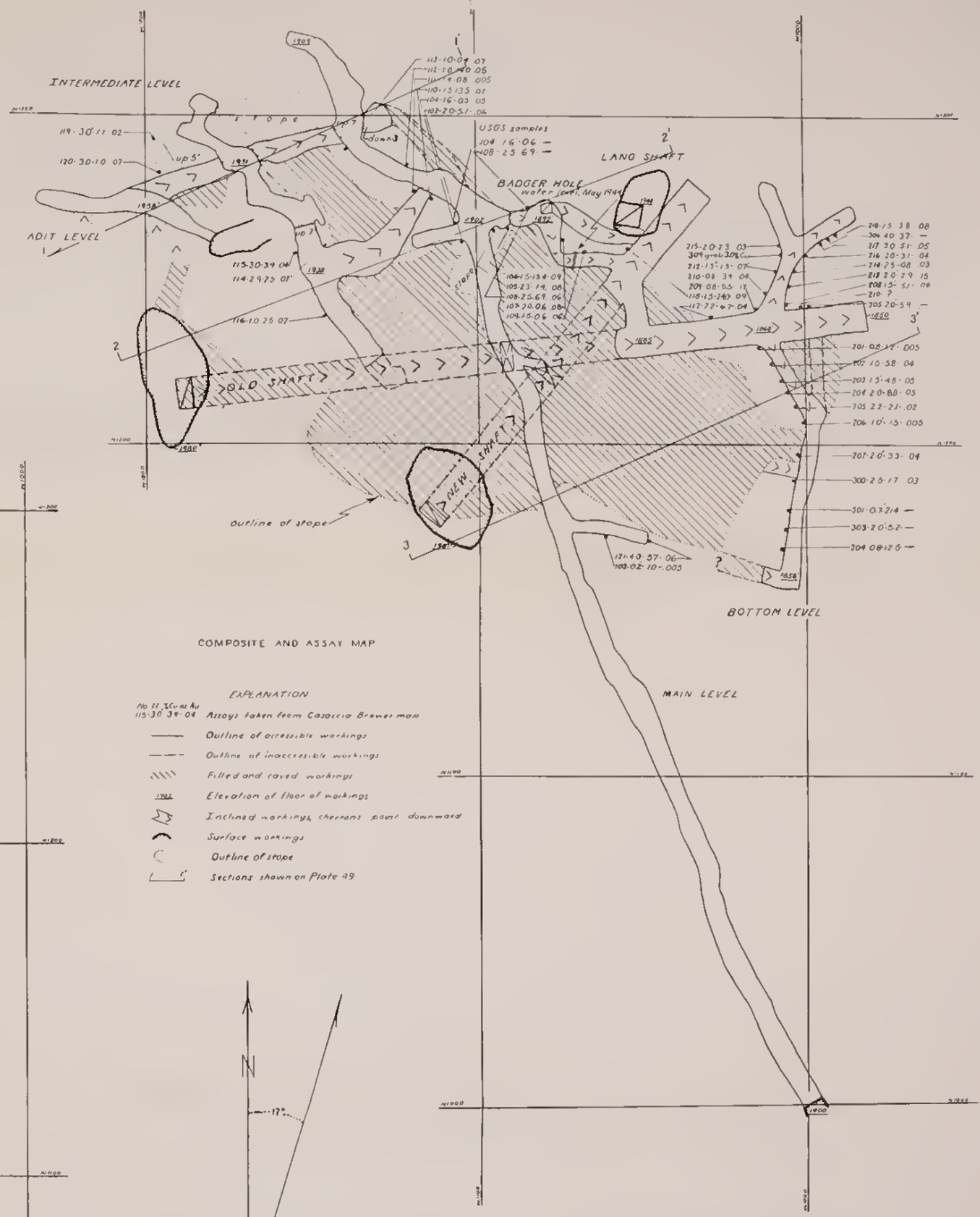
assumed datum



GEOLOGIC LEVEL MAPS

EXPLANATION

- Greenstone, derived from pillow lava
- Red brown gossan, showing dip
- Copper carbonate sulphide ore; includes some quartz pyrite rock; shows dip
- Quartz vein with calcite and 1% pyrite, showing dip
- Fault, showing dip and plunge of slickensides
- Shear zone showing dip
- Strike and dip of layers of pillows
- Workings lagged
- Inclined workings, chevrons point downward
- Outline of stope
- Sections shown on Plate 49



COMPOSITE AND ASSAY MAP

EXPLANATION

- No 11 3Cu oz Au, 115-30 39-04: Assays taken from Casaccia Brewer map
- Outline of accessible workings
- Outline of inaccessible workings
- Filled and caved workings
- 1782: Elevation of floor of workings
- Inclined workings, chevrons point downward
- Surface workings
- Outline of stope
- Sections shown on Plate 49

MAPS OF WORKINGS

LA VICTORIA MINE

MARIPOSA COUNTY, CALIFORNIA

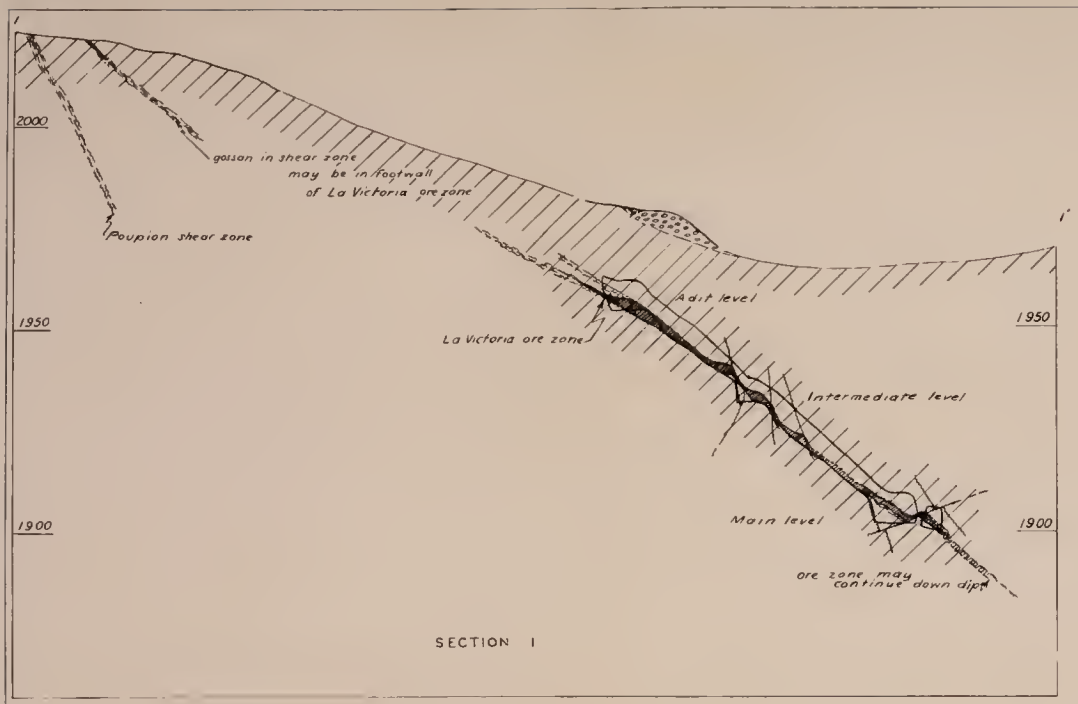
GEOLOGY BY
D. G. WYANT AND M. W. COX

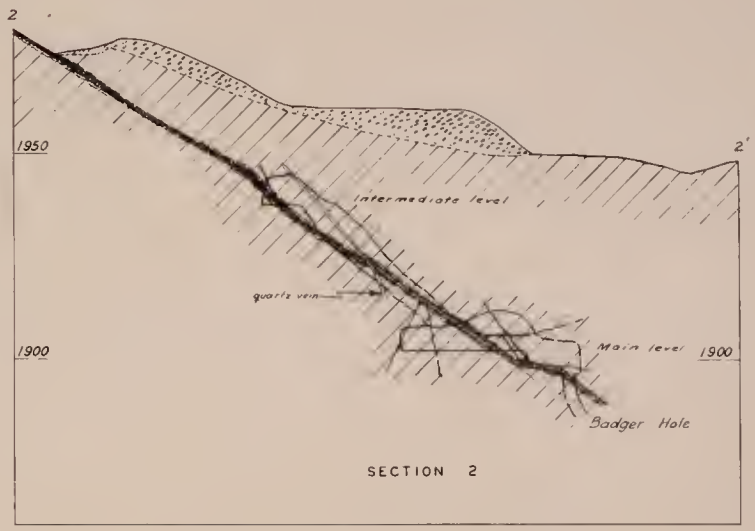
MINE SURVEY BY
FRANK A. CASACCIA AND DUENTIN BREWER
CONSULTING ENGINEERS

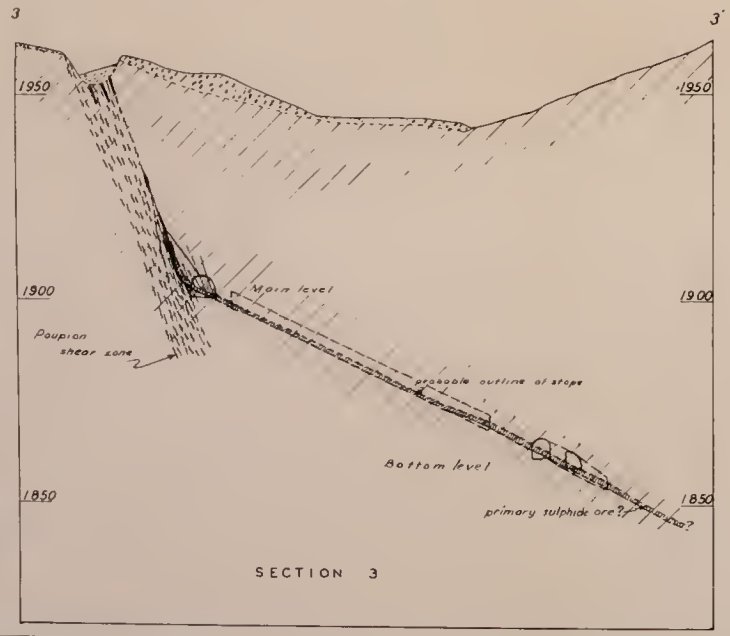
MAY 1944

SCALE

0 20 40 60 80 100 Feet







EXPLANATION

- Greenstone derived from pillow lava
- Red-brown gossan
- Copper carbonate-sulphide ore, includes some quartz-pyrite rock
- Fault
- Shear zone
- Mine dump

SECTIONS

LA VICTORIA MINE

MARIPOSA COUNTY, CALIFORNIA

BY

D G. WYANT AND M W. COX

MAY 1944

SCALE

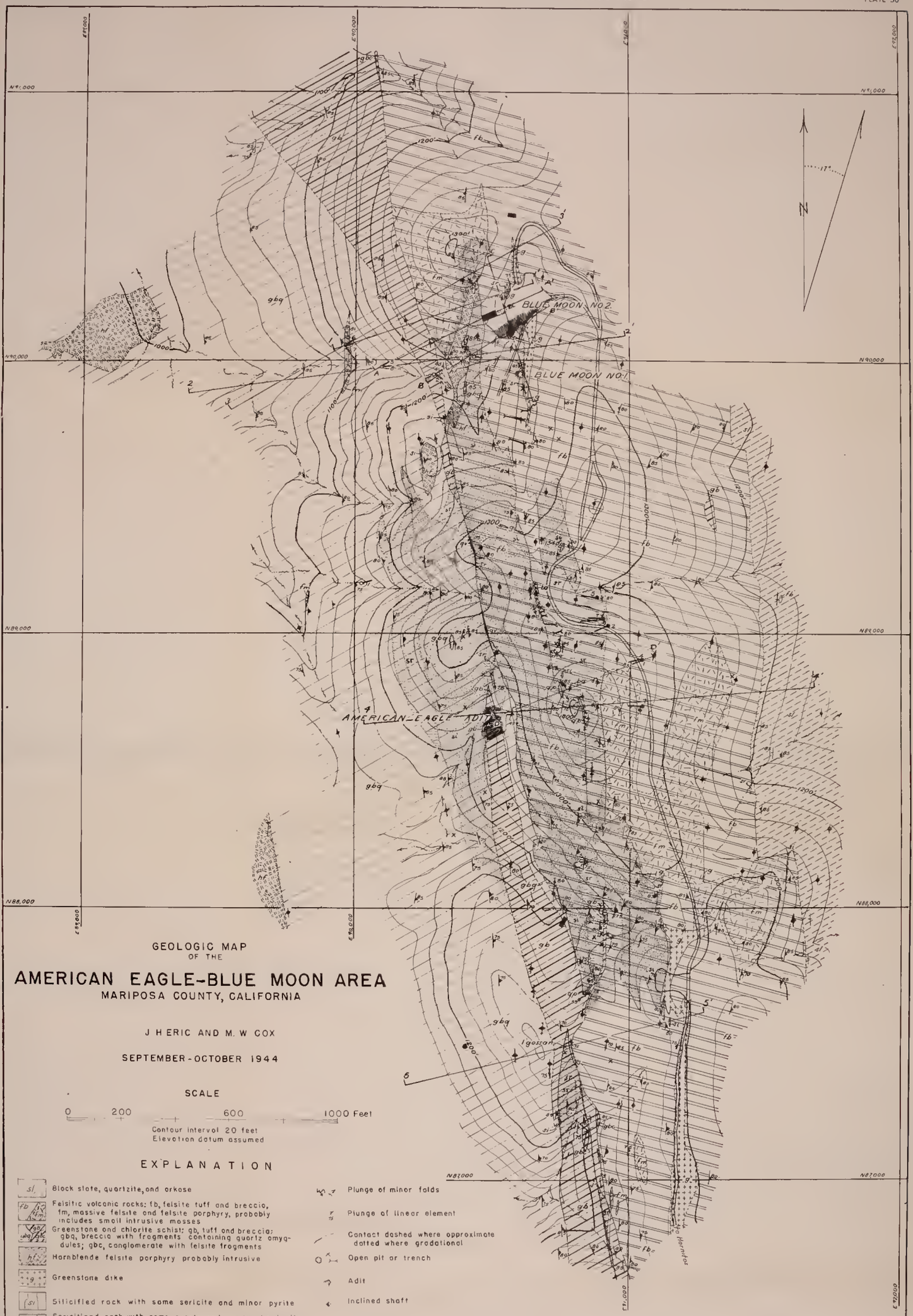
0 20 40 60 80 100 Feet

DIVISION OF MINES
OLAF P. JENKINS, CHIEF

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 144
PLATE 50



GEOLOGIC MAP
OF THE
AMERICAN EAGLE-BLUE MOON AREA
MARIPOSA COUNTY, CALIFORNIA

J H ERIC AND M. W COX

SEPTEMBER-OCTOBER 1944

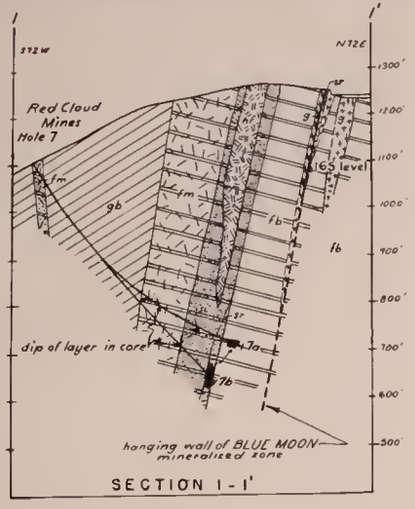
SCALE

0 200 600 1000 Feet

Contour intervol 20 feet
Elevation datum assumed

EXPLANATION

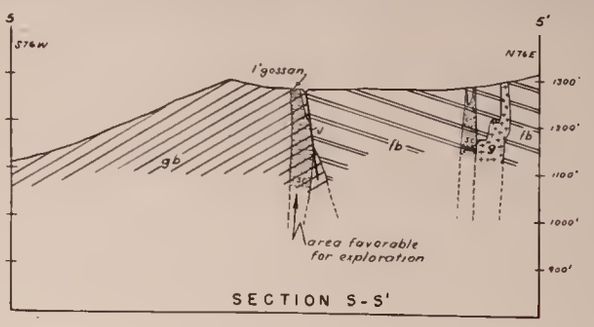
- Block slate, quartzite, and orkose
- Felsitic volcanic rocks: fb, felsite tuff and breccia; fm, massive felsite and felsite porphyry, probably includes small intrusive masses
- Greenstone and chlorite schist: gb, tuff and breccia; gbq, breccia with fragments containing quartz amygdules; gbc, conglomerate with felsite fragments
- Hornblende felsite porphyry probably intrusive
- Greenstone dike
- Silicified rock with some sericite and minor pyrite
- Sericitized rock with some quartz and pyrite; ba, barite-sericite schist
- Quartz pyrite rock
- Hematitic jasper
- Quartz vein, showing dip
- Strike and dip of beds
- Strike of vertical beds
- Strike and dip of schistosity
- Strike of vertical schistosity
- Plunge of minor folds
- Plunge of linear element
- Contact dashed where approximate dotted where gradational
- Open pit or trench
- Adit
- Inclined shaft
- Headframe
- Mine dump
- Diamond drill hole, Red Cloud Mines Inc.
- Diamond drill hole, Bureau of Mines
- Graded road
- Building
- Sections shown on Plate 51
- Sections shown on Plates 53, 56, 57, and 58



SECTION 1-1'

EXPLANATION FOR SECTIONS

- sl — Black slate quartzite and orkose
- fb — Felsite tuff and breccia
- fm — Massive felsite
- gb — Greenstone and chlorite schist
- hf — Hornblende felsite porphyry
- g — Greenstone dike
- sl — Silicified rock
- sr — Sericitized rock
- qp — Quartz-pyrite rock
- j — Hematitic jasper
- Zinc ore
- Fault breccia



SECTION S-S'

SECTIONS AND VERTICAL PROJECTION

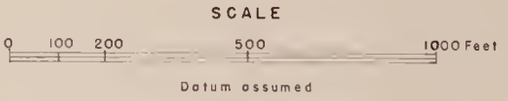
AMERICAN EAGLE–BLUE MOON AREA

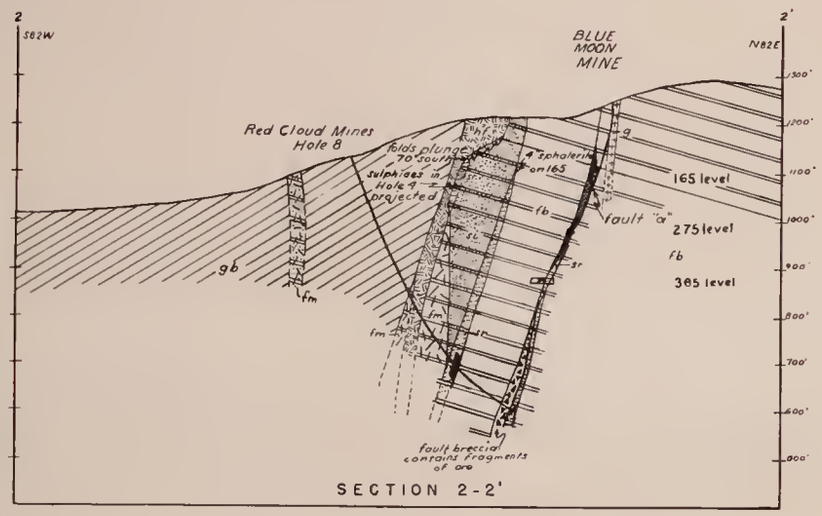
MARIPOSA COUNTY, CALIFORNIA

BY

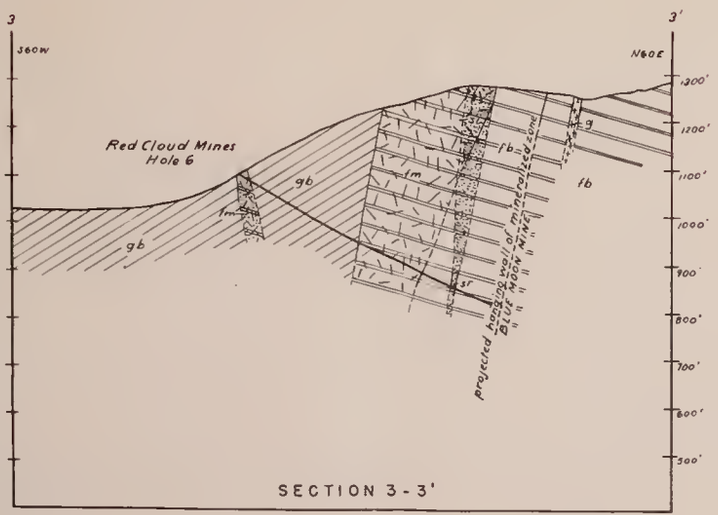
J. H. ERIC AND M. W. COX

OCTOBER 1944



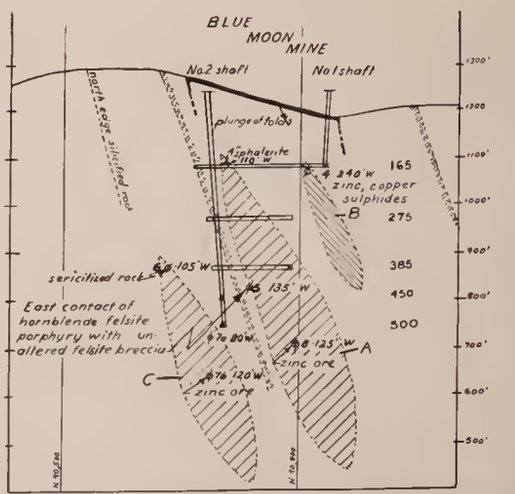


SECTION 2-2'

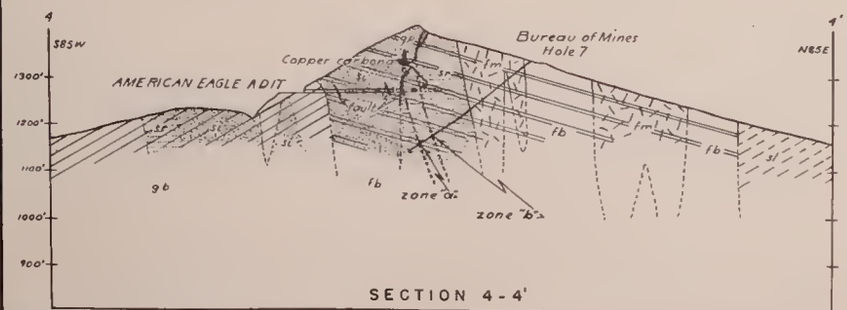


SECTION 3-3'

Two surveys of vertical angles in hole 7 failed to agree. The two possible positions of hole 7, assuming no horizontal deviation, are shown in the vertical projection and section 1-1'.



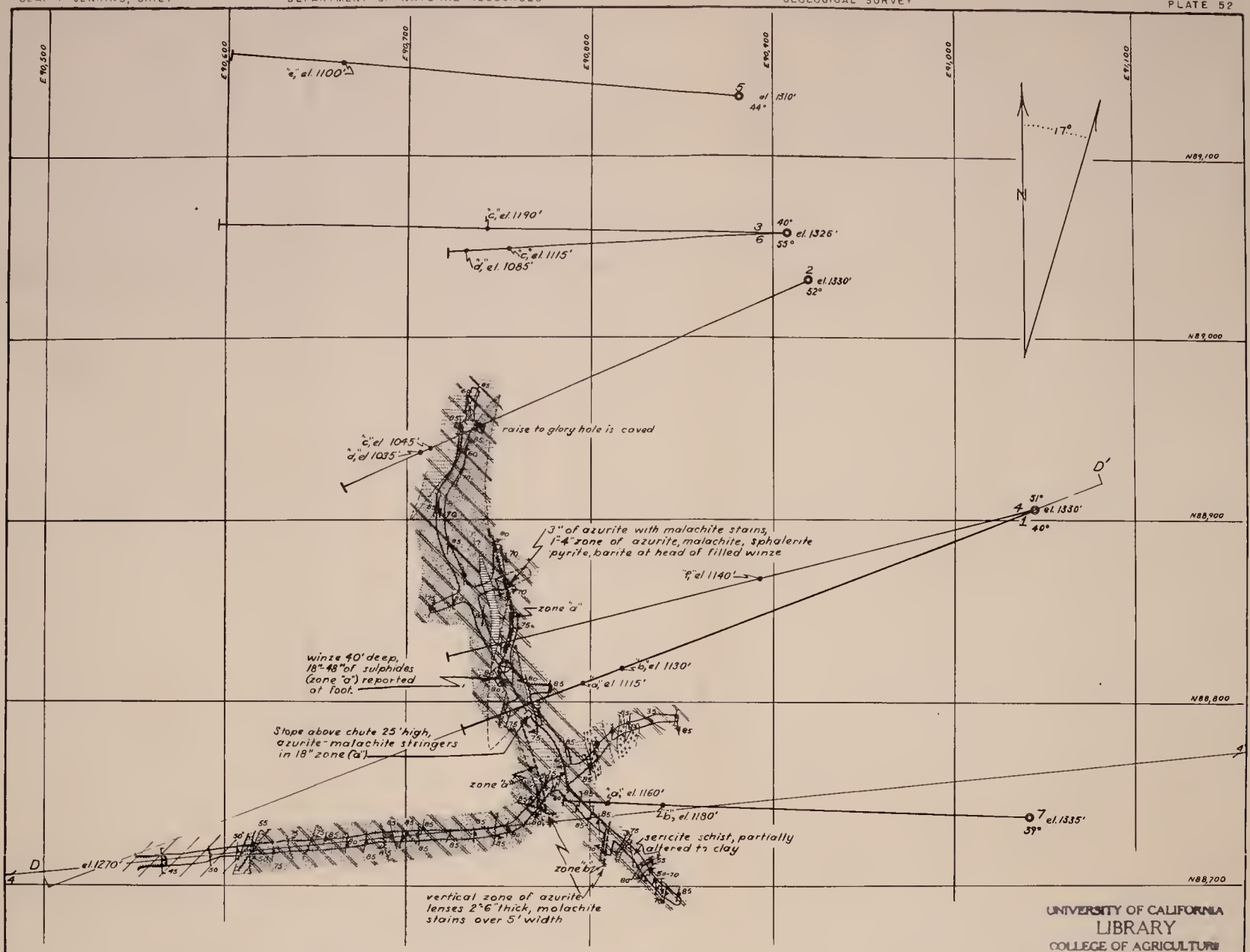
VERTICAL PROJECTION OF POSSIBLE MINERALIZED AREAS, WEST SILICIFIED ZONE



SECTION 4-4'

EXPLANATION FOR PROJECTION

- Mineralized area at east edge of silicified rock
- Mineralized area at west edge of silicified rock
- Ø8,-125W — Point intersected by drill hole B, 125' west at no 1 ore body
- Limits of hornblende felsite porphyry
- North trending part of east edge of silicified rock
- A — Area described in text



EXPLANATION

- Chlorite schist, volcanic breccia with fragments containing quartz amygdules
- Felsite tuff and breccia
- Greenstone dike
- Silicified rock with some sericite, pyrite, and iron oxide, after pyrite
- Sericitized rock with some quartz
- Quartz pyrite rock with iron oxide
- Mineralized zone
- Diamond drill hole showing intersection with mineralized zone (1, "a" el. 1115')
- Contact, showing dip (70)
- Fault, showing dip (70)
- Strike and dip of schistosity (60)
- Strike of vertical schistosity
- Folded schistosity showing plunge of folds, and average dip of schistosity (70)
- Plunge of minute crinkles in schistosity
- Strike and dip of joint (80)
- Head of winze
- Foot of raise
- D D' 4 4' Sections shown on plates S1 and S3

GEOLOGIC MAP
OF THE
AMERICAN EAGLE ADIT
MARIPOSA COUNTY, CALIFORNIA

SURVEYED BY
J. H. ERIC AND M. W. COX

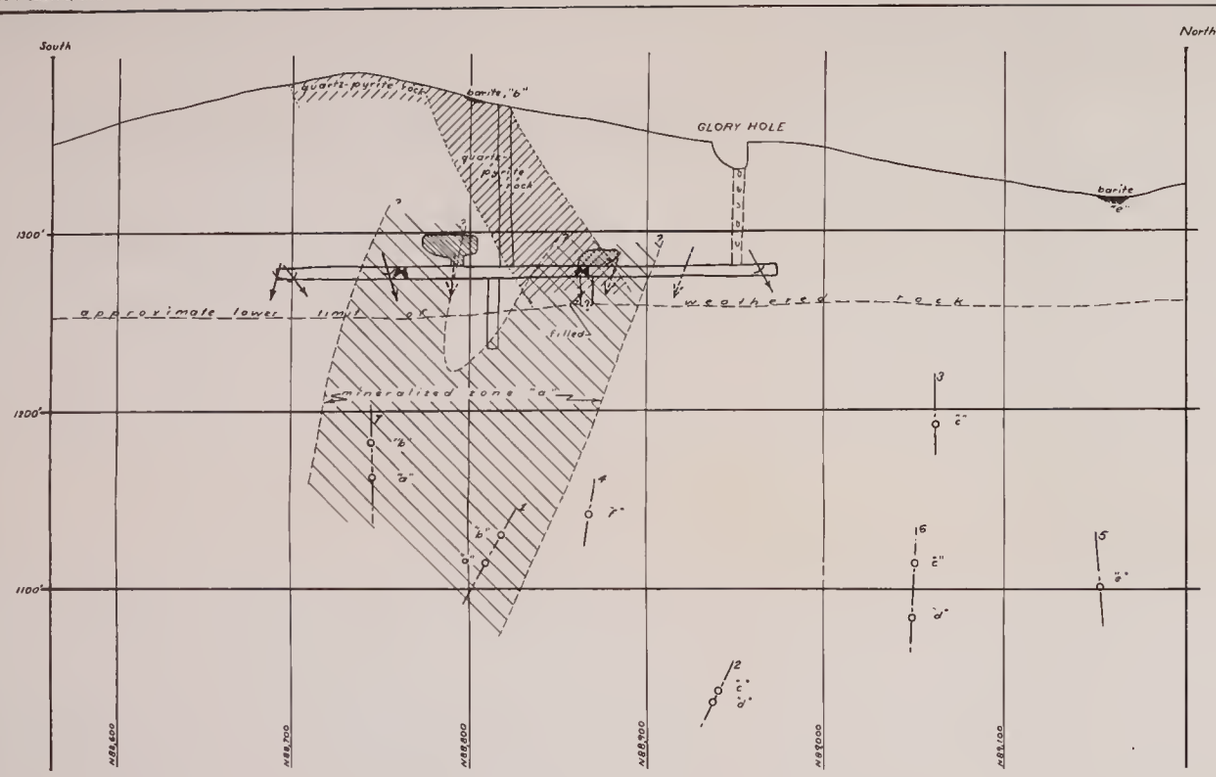
SHOWING LOCATION OF BUREAU OF MINES DRILL HOLES

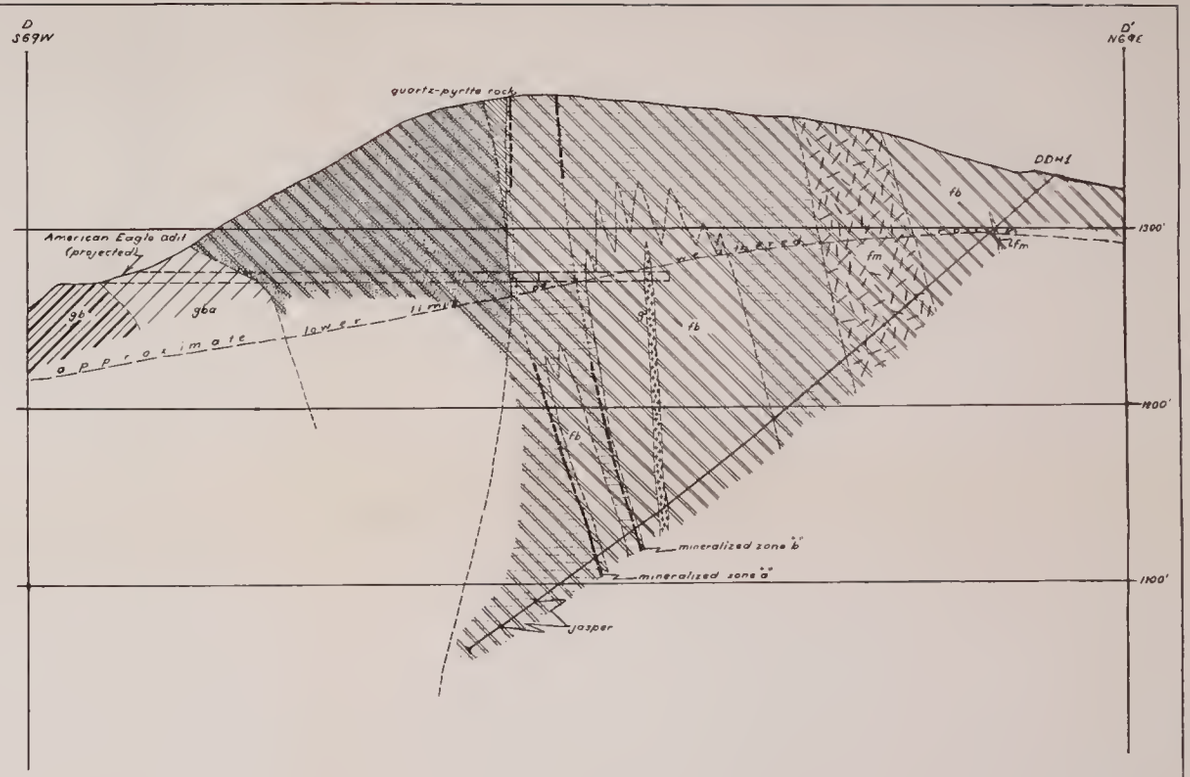
OCTOBER 1944

SCALE

0 10 50 100 200 Feet

Datum assumed





SECTION AND VERTICAL PROJECTION
OF THE

AMERICAN EAGLE PROSPECT

MARIPOSA COUNTY, CALIFORNIA

BY

J. H. ERIC AND M. W. COX

SHOWING BUREAU OF MINES DRILL HOLES

OCTOBER 1944

SCALE

0 40 80 120 200 Feet

Datum assumed

VERTICAL PROJECTION

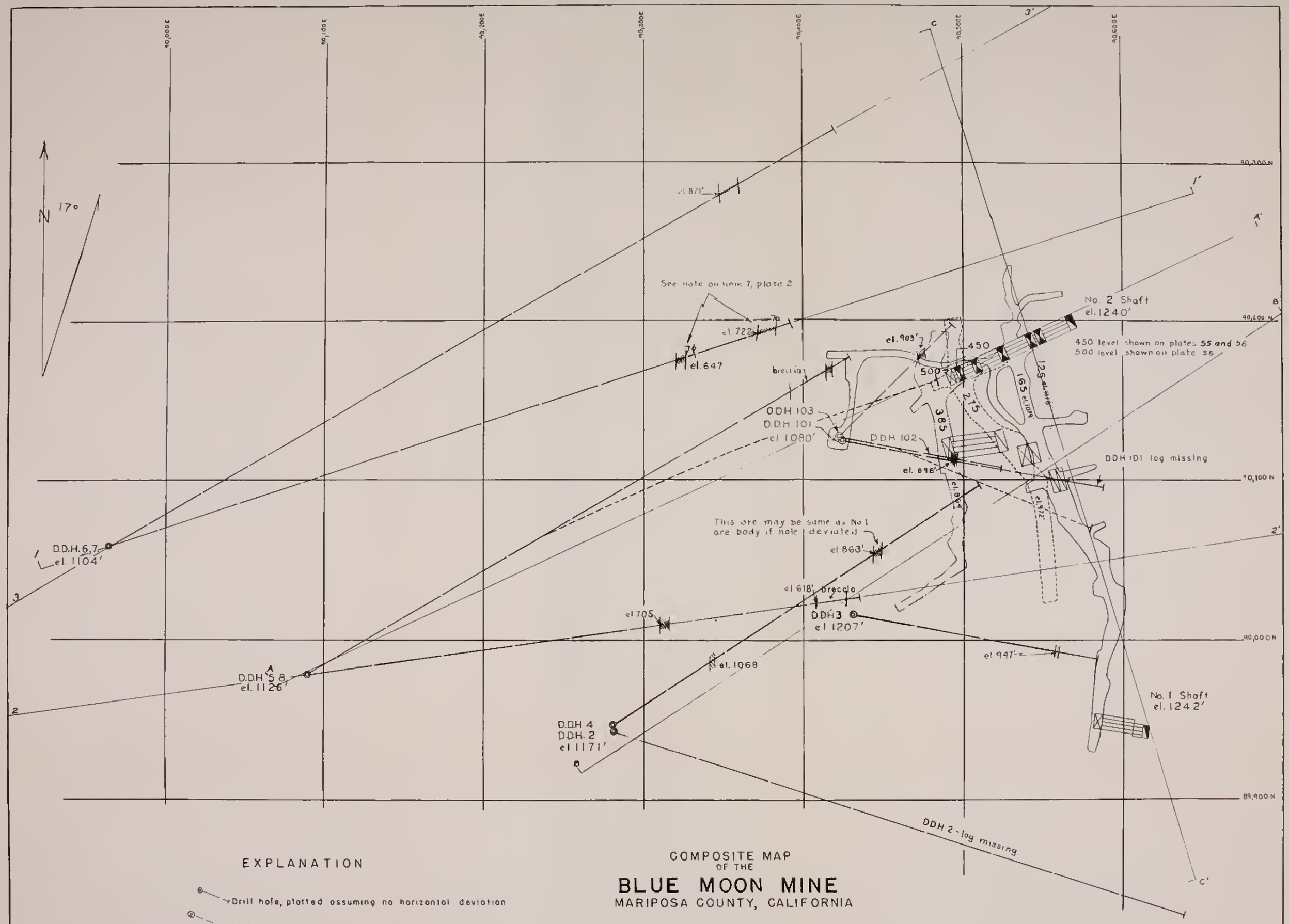
EXPLANATION

- Mineralized zone intersected in drill hole
- Sloped ground in mineralized zone "a"
- letters, as- "a", refer to mineralized zones
- Pitch of minor fold in schistosity
- Pitch of minute crinkles in schistosity
- Cross cut towards and away from observer

SECTION D-D'

EXPLANATION

- fb — Felsite tuff and breccia
- fm — Massive felsite
- gb — Green schist, volcanic tuff and breccia
- gba — Green schist; breccia fragments contain quartz amygdules
- g — Greenstone dike
- Silicified rock
- Sericitized rock
- Quartz-pyrite rock
- Mineralized zone



EXPLANATION

- Drill hole, plotted assuming no horizontal deviation
- Drill hole, intersected by workings
- Zinc ore, intersected by hole
- Sulphides, intersected by hole
- A—A Sections shown on plates 56, 57 and 58
- 1—1' Section shown on plate 51

COMPOSITE MAP OF THE BLUE MOON MINE

MARIPOSA COUNTY, CALIFORNIA

SHOWING DIAMOND DRILL HOLES- RED CLOUD MINES INC - 1941

UNDERGROUND WORKINGS SURVEYED BY
M W COX FEBRUARY 1944
J H ERIC OCTOBER 1945

DRILL DATA FROM
J H A WILLIAMS

SCALE

0 10 50 100 200 Feet

Datum assumed

GEOLOGIC LEVEL MAPS
OF THE
BLUE MOON MINE
MARIPOSA COUNTY, CALIFORNIA

SURVEYED BY
M. W. COX AND J. H. ERIC

1944-1945

EXPLANATION

- Zinc ore; sphalerite with pyrite in sericite-barite gangue, more than 25% sulphide
- Low grade schistose ore: sericite schist containing sphalerite, pyrite, and barite
- Sericite schist containing numerous films of pyrite
- Felsite tuff and breccia
- Massive felsite breccia
- Quartz sericite schist containing irregular masses of barite (felsite breccia)
- Greenstone, non-schistose, pyritized and schistose near ore
- Fault breccia containing angular fragments of ore and country rock

- Contact, showing dip
- Fault, showing dip
- Vertical fault
- Fault zone showing average dip of faults
- Strike and dip of schistosity
- Vertical schistosity

Main drifts are capped and lagged in back
Ore and breccia contacts are drawn in part from information furnished by mine foreman

SCALE

0 10 20 50 100 Feet

Datum assumed

450 LEVEL

Transit survey by R. H. Dunn

90,500 E
90,200 N
90,100 N
Section A-A'
Geology sketched from oral description by R. H. Dunn

385 LEVEL

90,500 E
90,200 N
90,100 N
el. 864'
pyritized sericite schist no visible sphalerite
pyritized, schistose selvage of greenstone
No. 1 ore body
breccia matrix altered to clay
4" clay
large fragment of ore
fault "a"
shear zone dips 50°-55°E at back
section A-A'
section B-B'
section 2-2'

Transit survey by R. H. Dunn

275 LEVEL

90,500 E
90,200 N
90,100 N
30,000 N
el. 972'
Section A-A'
This section of drift now caved
Section B-B'
Section 2-2'
Tape and compass survey by J. H. Eric and R. H. Dunn
Ore in back

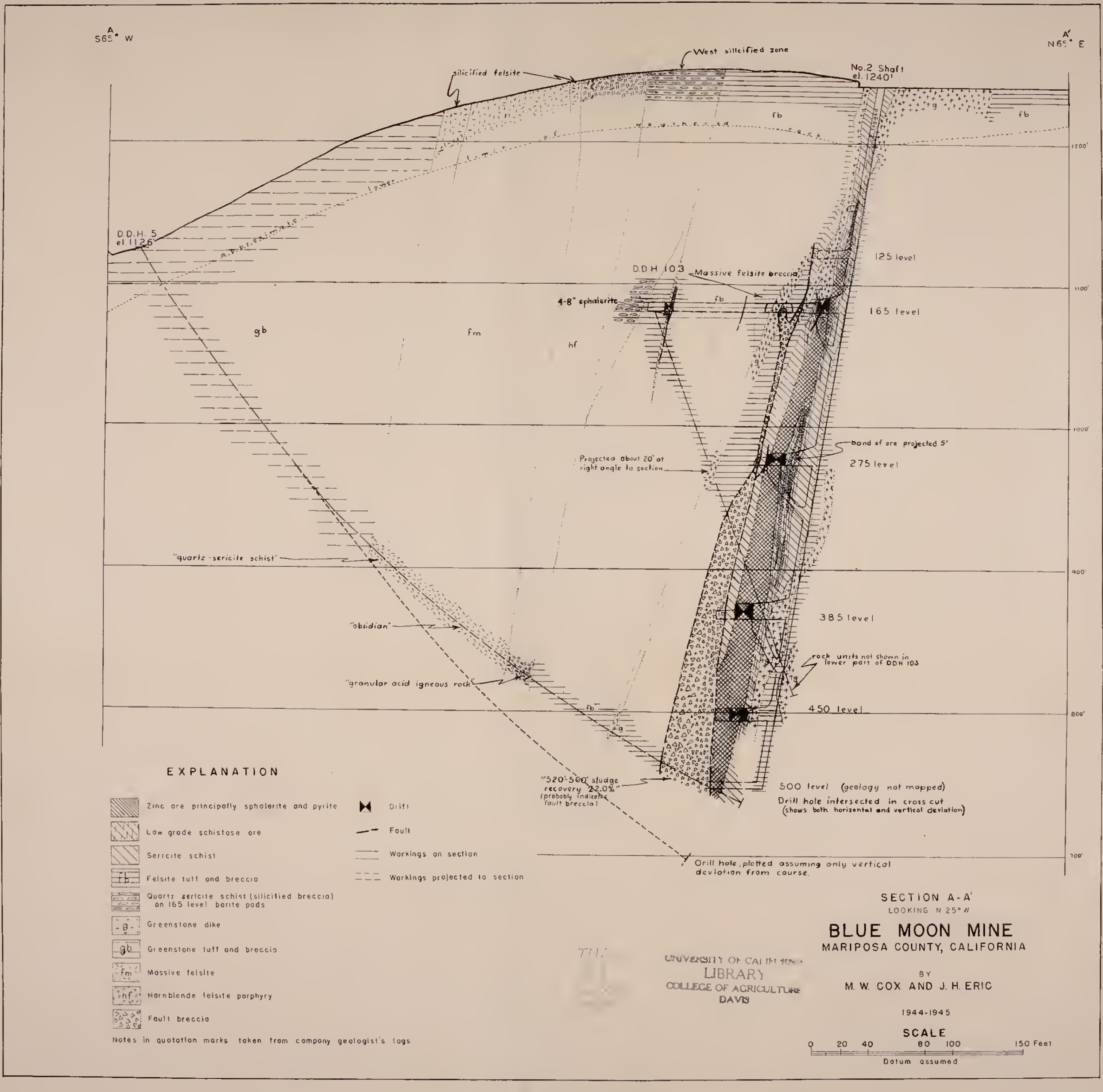
N
17°

165 LEVEL

90,500 E
90,200 N
90,100 N
90,000 N
limonite, malachite stains in greenstone
folds in schistosity along pyritized greenstone
section A-A'
el. 1079'
1-14" crushed zone
sericitized rock
3" sphalerite
4-8" sphalerite and pyrite
tight fault merges into breccia
Fault "a" 1'-2" clay
thin quartz and barite pods along foliation
No. 1 ore body
test hole in breccia
No. 2 ore body
section B-B'
up to 4" gouge
section 2-2'
quartz pods along shears
1-3" sphalerite, pyrite
sericitized rock along faults
1-3" gouge at 2nd stope floor
No. 3 ore body
Raise to No. 1 shaft
quartz pods along shears

125 LEVEL

90,500 E
90,100
el. 1113'
No. 2 Shaft
el. 1240'
section A-A'
massive sphalerite-pyrite ore
No. 1 ore body
No. 2 ore body
section B-B'
el. 1124' 165 RAISE - 5th stope floor
breccia cuts across top of ore at back of raise



EXPLANATION

- Zinc ore principally sphalerite and pyrite
- Low grade schistose ore
- Sericite schist
- fb — Felsite tuff and breccia
- Quartz sericite schist (silicified breccia) on 165 level barite pods
- g — Greenstone dike
- gb — Greenstone tuff and breccia
- fm — Massive felsite
- hf — Hornblende felsite porphyry
- Fault breccia

- Drift
- Fault
- Workings on section
- Workings projected to section

Notes in quotation marks taken from company geologist's logs

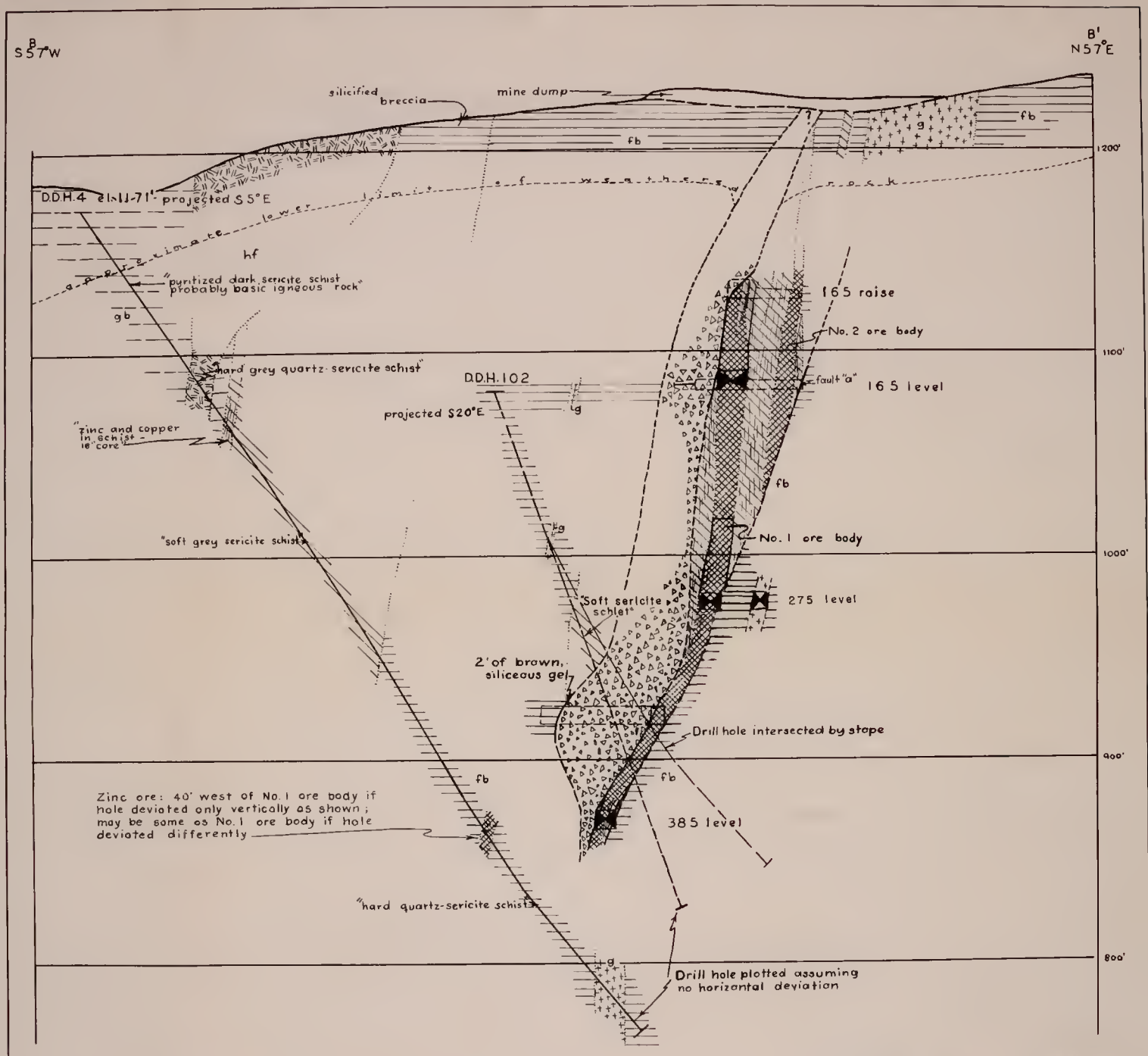
SECTION A-A'
LOOKING N 25° W

BLUE MOON MINE
MARIPOSA COUNTY, CALIFORNIA

BY
M. W. COX AND J. H. ERIC

1944-1945

SCALE
0 20 40 80 100 150 Feet
Datum assumed



EXPLANATION

- Zinc ore, principally sphalerite and pyrite
- Low-grade schistose ore
- Sericite schist
- fb — Felsite tuff and breccia
- +g+ — Greenstone dike
- gb — Greenstone tuff and breccia
- Fault breccia
- hf — Hornblende felsite porphyry
- Drift
- Fault
- Workings on section
- Workings projected to section

Notes in quotations are taken from company geologist's log

SECTION B-B'
LOOKING N33°W

BLUE MOON MINE
MARIPOSA COUNTY, CALIFORNIA

BY
M. W. COX
OCTOBER 1944

SCALE
0 20 60 100 150 Feet
Datum assumed

C
N 17° W

C'
S 17° E

north limit of sericitized rock

Sericite barite gosson mine dump

pitch of folds

limits of sericitized rock

2-8" gosson

approximate lower limit of weathered rock

north limit of sulphides

NO. 2

NO. 3 ORE BODY

south limit of sericitized rock and sulphides

intersection of fault breccia and footwall no.1 ore body

125 level

OREBODY

pitch of folds

Possible 4-8" sphalerite, 110' west of no. 1 orebody

4 zinc copper sulphides 240' west of no.1 orebody

probable intersection of fault with no. 2 orebody

1200

1100

1000

165 level

275 level

3 2" sphalerite

OREBODY

102

900

385 level

4 zinc ore ? west of no.1 orebody, if hole deviated only vertically as shown on plate 57; may be some as no.1 orebody, if hole deviated differently

Intersection of fault breccia and footwall No. 1 ore body

800

450 level

500 level

5

zinc ore 80' west of no.1 orebody 7a

5 zinc ore ?

8 zinc ore 125' west of no.1 orebody

700

see note on note 7 plate 51

7b zinc ore 120' west of no.1 orebody

Outline of workings by Red Cloud Mines, Inc.

8

600

EXPLANATION

- Gosson
- Workings in no.1 ore body outline of orebody
- Workings in no.2 ore body outline of ore body
- Workings in no.3 orebody outline of ore body
- Point in drill hole plotted assuming no horizontal deviation
- Point in drill hole intersected in mine
- 3 Crosscut towards observer
- 2 Crosscut away from observer

SCALE

0 20 40 100 150 200 Feet

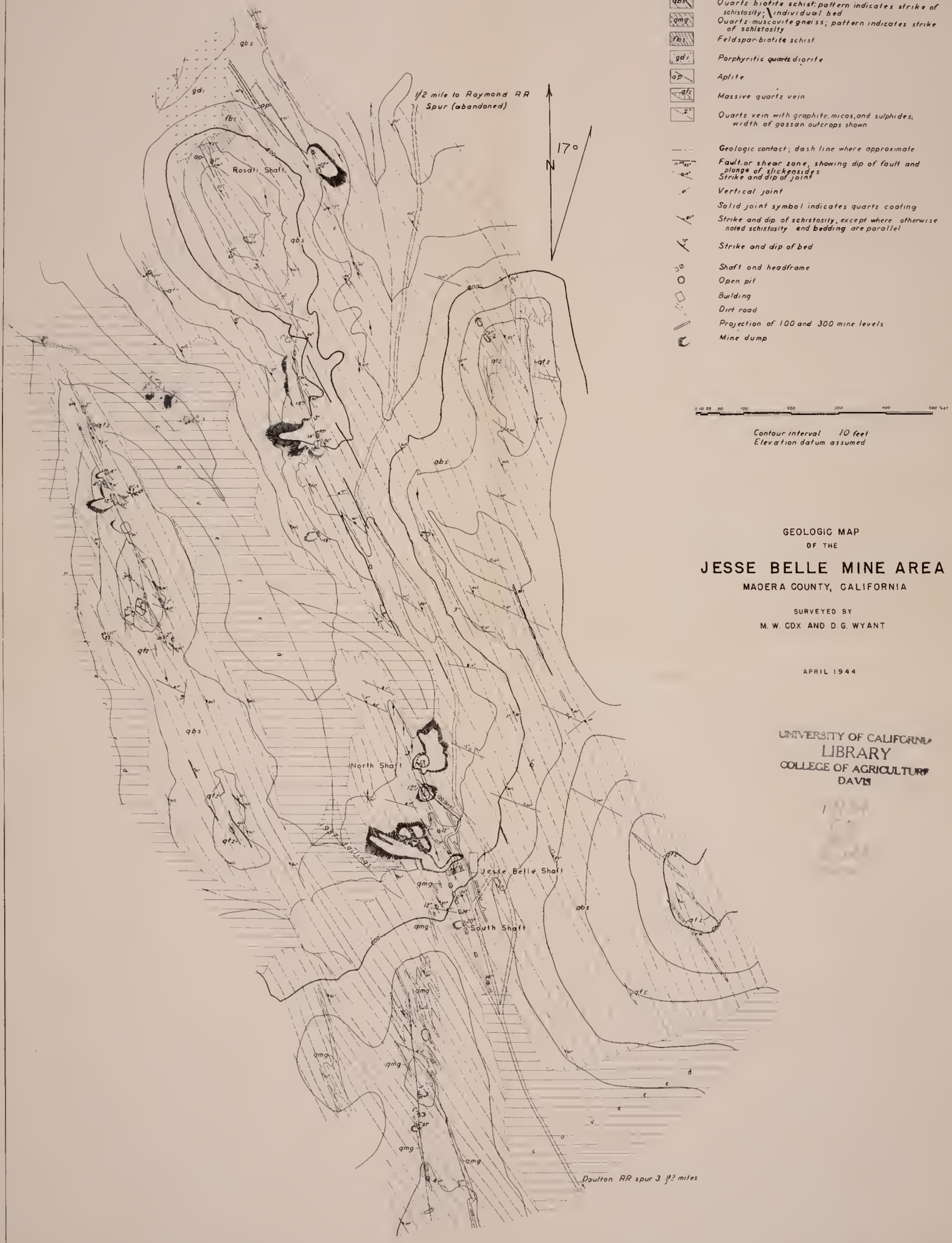
VERTICAL PROJECTION ALONG LINE C-C'

BLUE MOON MINE

MARIPOSA COUNTY, CALIFORNIA

J. H. ERIC
M. W. COX

1944 - 1945



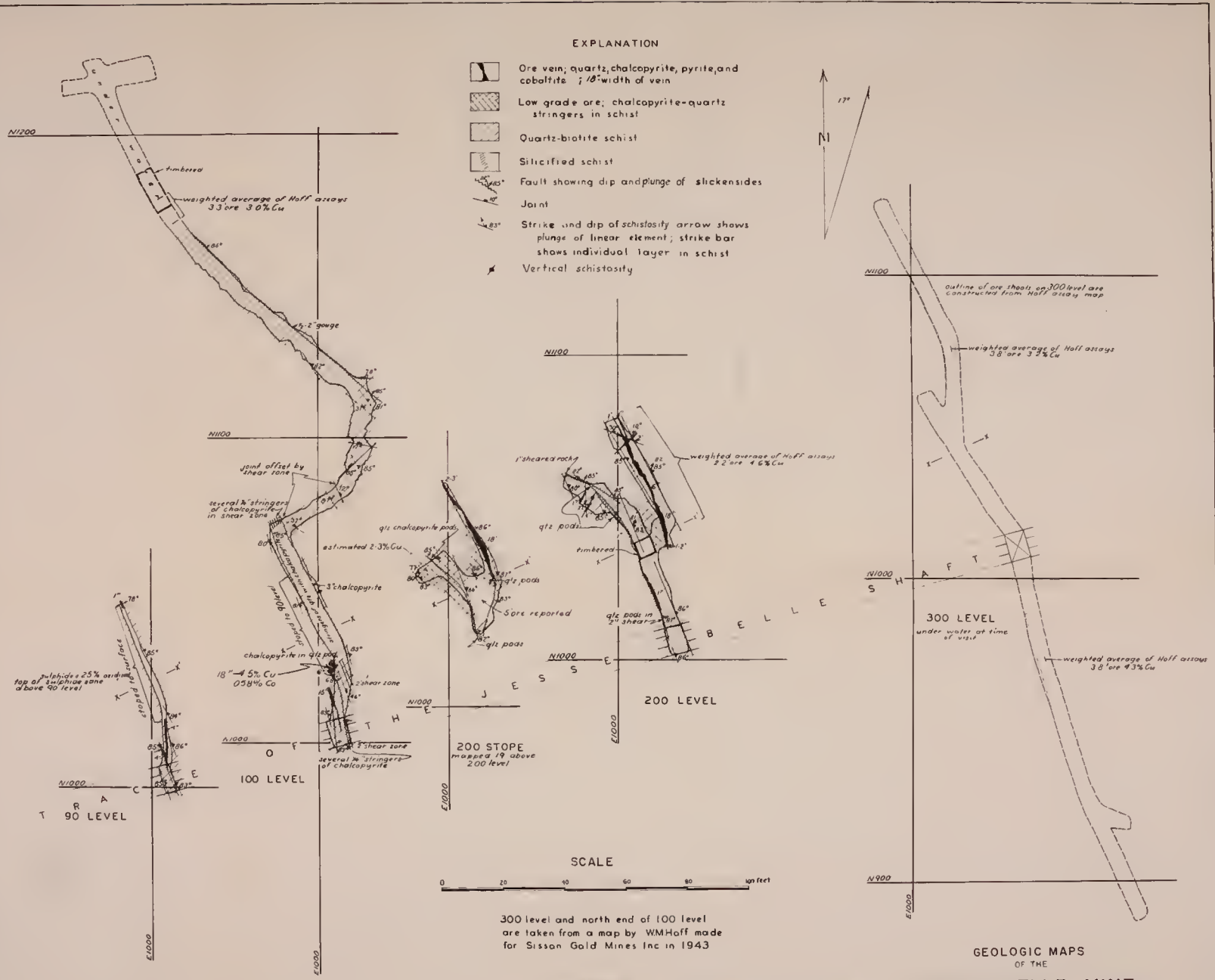
GEOLOGIC MAP
OF THE

JESSE BELLE MINE AREA

MADERA COUNTY, CALIFORNIA

SURVEYED BY
M. W. COX AND D. G. WYANT

APRIL 1944



300 level and north end of 100 level are taken from a map by WM Hoff made for Sisson Gold Mines Inc in 1943

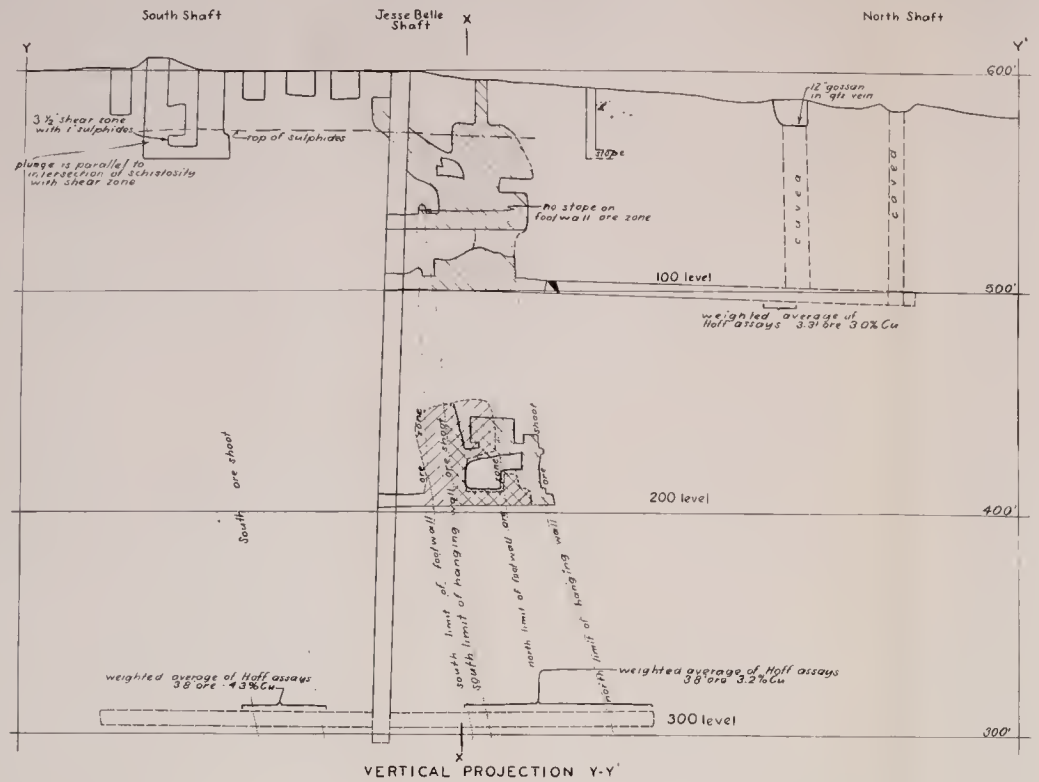
GEOLOGIC MAPS
OF THE

JESSE BELLE MINE

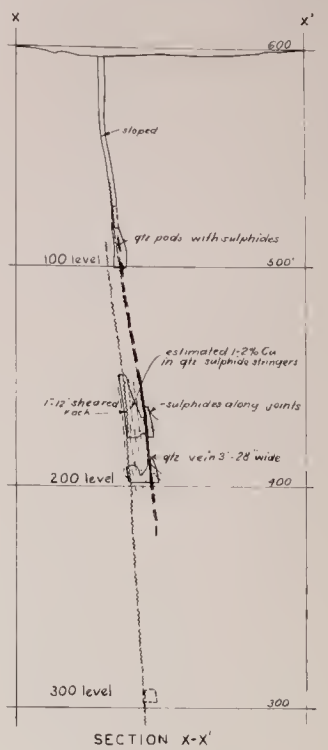
MADERA COUNTY, CALIFORNIA

SURVEYED BY
M. W. COX AND D. G. WYANT

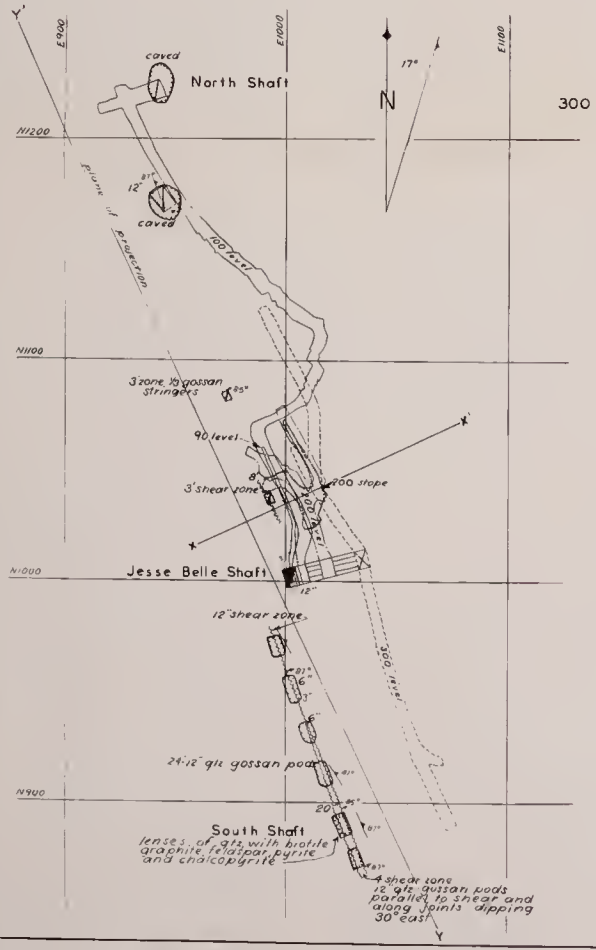
APRIL-MAY 1944



VERTICAL PROJECTION Y-Y'



SECTION X-X'



COMPOSITE MAP
300 level from map by W.M.Hoff, 1943

EXPLANATION

- Surface pit
- Shaft collar
- Vein, showing width of gossan
- Fault, showing dip
- Strike and dip of schistosity
- qtz Quartz

EXPLANATION
for sections

- Vein
- Fault
- Joint
- Footwall stope of main ore shoot
- Hanging wall stope of main ore shoot
- Cross cut to hanging wall
- Inaccessible workings
- qtz Quartz

SCALE

0 10 20 50 100 200 feet

COMPOSITE MAP AND SECTIONS
OF THE
JESSE BELLE MINE
MADERA COUNTY, CALIFORNIA

SURVEYED BY
M. W. COX AND D. G. WYANT

APRIL-MAY 1944